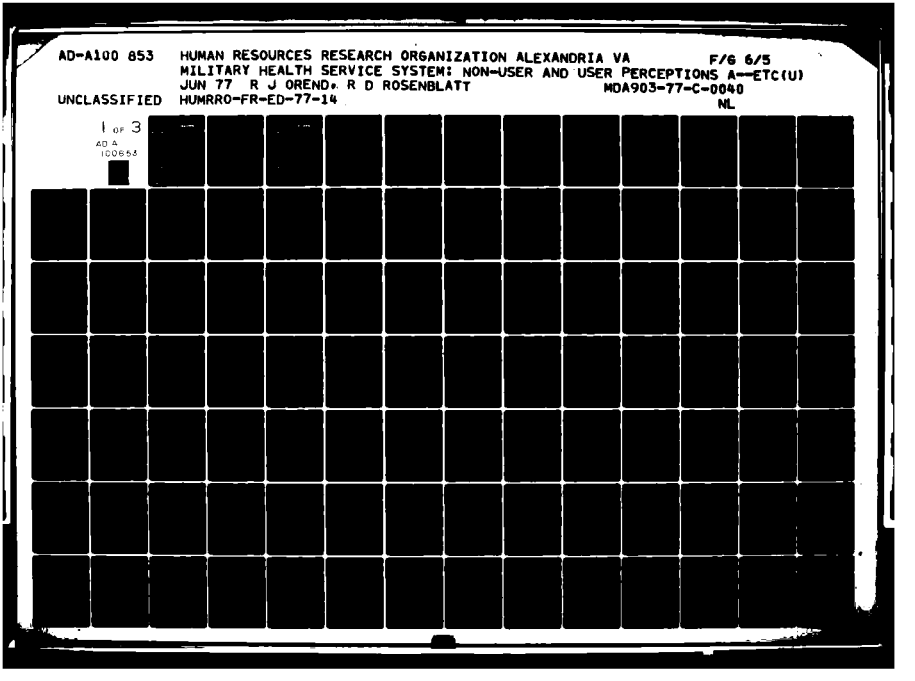
AD-A100 853 HUMAN RESOURCES RESEARCH ORGANIZATION ALEXANDRIA VA F/G 6/5
MILITARY HEALTH SERVICE SYSTEM: NON-USER AND USER PERCEPTIONS A--ETC(U)
JUN 77 R J OREND, R D ROSENBLATT MDA903-77-C-0040
UNCLASSIFIED HUMRRO-FR-ED-77-14 NL

1 OF 3
AD A
100653



Final Report
77-14

HumRRO
FR-ED-77-14

LEVEL II

HumRRO

AD A100853

Military Health Service System:

Non-User and User Perceptions and Evaluations

by

Richard J. Orend and
Richard D. Rosenblatt

HUMAN RESOURCES RESEARCH ORGANIZATION
300 North Washington Street • Alexandria, Virginia 22314

June 1977

Prepared for:

Office of the Assistant Secretary of Defense
Health Affairs
1111 19th Street
707 Lynn Building
Arlington, VA 22209

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER	2. GOVT ACCESSION NO. AD A066 353 / 3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) MILITARY HEALTH SERVICE SYSTEM: NON-USER AND USER PERCEPTIONS AND EVALUATIONS	5. TYPE OF REPORT & PERIOD COVERED Final Report
	6. PERFORMING ORG. REPORT NUMBER FR-ED-77-14
7. AUTHOR(s) Richard J. Orend and Richard D. Rosenblatt	8. CONTRACT OR GRANT NUMBER(s) MDA 903-77-C-0040
9. PERFORMING ORGANIZATION NAME AND ADDRESS Human Resources Research Organization (HumRRO) 300 North Washington Street Alexandria, Virginia 22314	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS Office of the Assistant Secretary of Defense (Health Affairs)	12. REPORT DATE June 1977
	13. NUMBER OF PAGES 225
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)	15. SECURITY CLASS. (of this report) Unclassified
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

CHAMPUS
MHSS (Military Health Services System)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The overall objectives of this analysis were originally specified as (1) to estimate the percent of MHSS eligible beneficiaries who do not use the MHSS; (2) to determine why they do not use the MHSS; (3) to estimate the percent of MHSS eligibles who have health insurance comparable to MHSS; (4) to determine how and why they acquire this health insurance coverage; (5) to determine the relationship between non-use of MHSS and Health insurance coverage; (6) to determine the type of health insurance coverage held by users and non-users of MHSS; and (7) to estimate dental utilization rates & dental costs to beneficiaries.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Final Report
77-14

HumRRO
FR-ED-77-14

HumRRO

Military Health Service System:

Non-User and User Perceptions and Evaluations

by

Richard J. Orend and
Richard D. Rosenblatt

HUMAN RESOURCES RESEARCH ORGANIZATION
300 North Washington Street • Alexandria, Virginia 22314

June 1977

Prepared for:

Office of the Assistant Secretary of Defense
Health Affairs
1111 19th Street
707 Lynn Building
Arlington, VA 22209

ACKNOWLEDGEMENT

HumRRO wishes to express its appreciation to the DoD Defense Manpower Data Center and Mr. Kenneth C. Scheflen, Assistant Director for Analysis, for invaluable assistance in the conduct of this study. Especial thanks are due Mr. Leslie Willis, Programmer, who was instrumental in constructing the data bases required for our analyses.

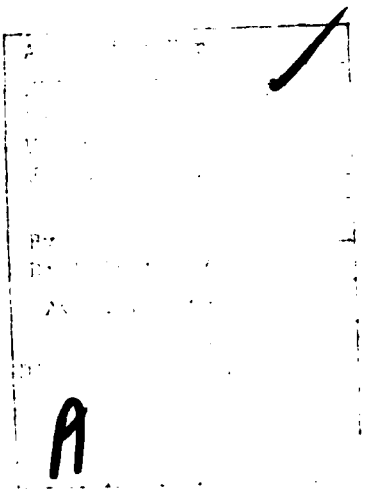


TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

SUMMARY

Objectives: The overall objectives of this analysis were originally specified as: (1) to estimate the percent of MHSS eligible beneficiaries who do not use the MHSS; (2) to determine why they do not use the MHSS; (3) to estimate the percent of MHSS eligibles who have health insurance comparable to MHSS; (4) to determine how and why they acquire this health insurance coverage; (5) to determine the relationship between non-use of MHSS and health insurance coverage; (6) to determine the type of health insurance coverage (comprehensive, basic and major medical, CHAMPUS supplemental, etc.) held by users and non-users of MHSS; and (7) to estimate dental utilization rates of and dental costs to beneficiaries. These objectives were divided into five general tasks which are described below. Each task is designed to respond to one or more of the questions. However, the tasks, as presented here, represent some modifications from those described in the original Statement of Work. These changes reflect increased [illegible] in the overall [illegible]. The study does address each area of concern but [illegible] modifications in the scope of the questions asked were necessary to achieve useful analysis.

Task 1 (Chapter III of the Report): In this analysis the extent of MHSS use is described in the aggregate for each beneficiary class and for each user class. The beneficiary classes include active duty personnel, dependents of active duty personnel, retired personnel, dependents of retired personnel, survivors of retirees, and survivors of active duty personnel. The user classes are direct care users, CHAMPUS users, those

who use both [illegible] the [illegible] [illegible]. [illegible] descrip- tive analysis [illegible] patterns within both the T[illegible] and California samples [illegible] well [illegible] for the [illegible] sample.

Tasks 2 and 3 (Chapter [illegible] of the Report): These tasks are directed toward determining [illegible] extent of non-MHSS [illegible] coverage and the reasons that beneficiaries have such coverage. Comparability of the outside programs with the MHSS and the "basis" for the outside coverage are determined from family records. MHSS usage patterns for those families with outside programs and for families with different coverage bases are also described in this section. These analyses are meant to provide an indication of the reasons beneficiaries have for using outside systems.

Task 4 (Chapter [illegible] of the Report): [illegible] to this task were [illegible]: (1) satisfaction and dissatis- faction with [illegible] of [illegible] in general; (2) a com- parison of military and civilian health care; and (3) [illegible] to the acceptance of physician extenders. Each of these analyses was performed for each user [illegible] and beneficiary class. Thus, it was possible to determine how satisfaction with health care, [illegible] of various aspects of military and civilian health care, and the use of physician extenders to perform [illegible] services, was perceived in each group.

The [illegible] general categori[illegible], quality of [illegible], and [illegible] efficiency. The comparison of military and civilian health care [illegible] on similar dimensions. All descriptive analyses were performed for both the general dimensions and [illegible] although the [illegible] results come from the [illegible].

Task 5 (Chapter IV of the Report): This chapter describes the use and cost of dental services by each beneficiary class. The analysis also controls for various socioeconomic and demographic characteristics. The results provide a detailed examination of the pattern of dental service usage and cost across beneficiary groups and other individual characteristics.

Data

The data used in this study come from a 1973-74 sample of military beneficiaries in North and South Carolina and a restricted area in Texas. The sample is a probability sample, and therefore, is representative of the population of beneficiaries living in those areas. There were 5790 family interviews and a total of 16,000 individual subjects discussed in the survey. Surveying was conducted in waves over a four month period using a very complex interview protocol. Many of the reported elements of this survey were based upon the observations of the interviewer and this may partially explain some of the data processing difficulties which were encountered in coding the results.

The methodology chapter describes, in detail, the variables selected for analysis and the procedures used to develop the "constructed" variables. That thoroughness is in part due to the standard of professional report preparation. It is in equal part due to the fact that important descriptors of beneficiary and user characteristics and behaviors are, in a number of instances, based on multiple inferences and not on direct measurement. Responsible persons who may use the findings of this study in policy and program planning must be in a position to evaluate the criteria employed in variable construction and decide whether the ensuing data analysis truly reflects the phenomena of interest. The difficulties encountered in designing data analyses maximally responsive to the research objectives stem from a persistant lack of complete documentation for the data tape and from irregularities in the tape contents.

MHSS General Usage Pattern

A total of 16,093 beneficiary respondents provided information on their use of the medical services in the twelve month period immediately preceding the MHCS survey. Approximately one-half of the respondents used only direct care services. This number amounted to almost 60% of those who actually used health care during the twelve months prior to the survey. Thus, the direct care system constitutes by far the largest single service source. CHAMPUS users constitute slightly less than 11% of total users, while civilian only and civilian plus direct care are more than 26% of total users. This means that the potential for CHAMPUS use is much higher than is currently being demanded. If, for example, all of the Civilian Only and Civilian plus Direct users were to choose to CHAMPUS, the demand would have been about 12% greater than it was.

The general usage pattern data described above are clarified when examined by beneficiary class. Large differences are found in the usage patterns of each beneficiary group. In general, the farther a beneficiary group is away from direct contact with Active Duty military, the less likely is contact with the direct health care system and the greater is the likelihood for using only civilian health care. Thus, Active Duty dependents are most likely to use direct care and survivors least likely to use that system. Civilian service usage, on the other hand, is highest among survivor grups. CHAMPUS usage is remarkably similar among all groups (except Active Duty personnel who are not allowed to use CHAMPUS). This is especially true when two usage patterns, CHAMPUS Only and Direct Care and CHAMPUS are combined. Excluding Active Duty personnel the range is from 9.8%, for Retired Military to 15.1% for Survivors of Retirees.

Prevalence of Non-MHSS Health Programs

The analysis for Objective 1 reveals that 25.5% of all families participating in the survey have at least one non-MHSS health insurance plan. Retired and survivor families are the beneficiary classes where the highest proportion of outside plans are held. Active duty families, as might be expected, are least likely to have outside plans. This is probably the result of greater usage of direct care services and a lower incidence of easily obtainable outside sources of such policies--particularly outside jobs.

Most prominant among reasons for obtaining outside insurance is the fact that it was "free or automatic" (45.5%), probably as a consequence of work or other organizational membership. The next two most cited reasons were reflections of dissatisfaction with available MHSS alternatives. They were "more benefits desired" (25.6%) and "dissatisfaction with military" (6). Other reasons demonstrate a variety of individual concerns and perceptions of future events, but most are quite small in their endorsement.

The distribution across beneficiary classes reveals some interesting variations in the general pattern. The "free or automatic" response ranges from a high of 54.5% among Active Duty Family members to 40.5% among Survivors of Retired Military. That is, the "free", usually in return for having a member on Active Duty, the greater is the likelihood that it was not looked elsewhere for adequate insurance, at least in the mind of the respondents. Greater benefits are, with one exception, the most likely reason for pursuing other policies among those holding "comparable" policies. Among Kaiser members dissatisfaction (17.5%) follows free/automatic as the most popular reason for holding an alternate policy. The exception is a substantial group (27.4%) of Survivors of Active Duty military who perceive themselves as ineligible for adequate MHSS care. A number of Survivors of Retired also had previous policies (13.9%) of some type.

In summary, this section provides some interesting clues about the use of alternative comparable health care programs. Generally, the appearance of these programs is attributable to the automatic action of jobs rather than a conscious effort to find an improved program. This finding is true for all family user types. Perhaps more important is the fact that so few respondents have such programs at all, less than 6%. The level of dissatisfaction with MHS, at least to the degree the alternative programs, is apparently relatively low. It may be premature to conclude, however, that these figures summarize the good health of the system. The number seeking outside policies may be attenuated by the prohibitive cost.

Perceptions of General Health Care Services

The lack of substantial differences in the perception of health care services by different user groups and different beneficiary groups is the major finding of the section. A complementary finding is that most respondents are generally satisfied with the level of medical service they have received. Some of the particular problem areas (relatively) are the use of multiple doctors and the amount of red tape necessary in some systems. These problems are associated with the use of Direct Care systems and the use of CHAMPUS. In general, the organization of the health care systems is a somewhat greater cause of dissatisfaction than personal courtesy of medical personnel, but neither problem appears serious.

Comparison of Military and Civilian Health Care Systems

While 28 of 40 test items show the military and civilian services to be equally perceived and four more show the military to be somewhat more highly regarded (these were cost, physicians, emergency care, and to a degree, facilities), there are still eight areas in which they are poorly perceived. Of particular importance here is the question of convenience items which have traditionally been the nemesis of the military system. Also of importance are a perceived lack of concern by doctors and discontinuity of care which may be more the fault of the military rotation system than of the MHSS itself.

While most of the perceptions of the civilian vs. military health care systems are relatively constant over user type and beneficiary class, one exception is noteworthy. It is that the Active Duty and Dependent beneficiary class is more likely to endorse the quality of civilian physicians than military physicians. This is contrary to a trend for all other identified groups to favor military physicians. This group exhibits the same anti-military propensity on the question of doctor's concern, again representing a slight trend reversal. These specific instances signal a more general trend among the Active Duty and Dependent respondents to be at least as negative and sometimes more negative toward military health care services than any other group.

Another interesting outcome of this analysis is the failure of user type and, to a great extent, beneficiary class, to distinguish on the selection of military vs. civilian alternatives. Again, this could be a function of data limitations, but on the basis of what is available a further investigation into this issue is strongly indicated.

The brief examination of attitudes toward CHAMPUS revealed that a number of factors play a role in the rejection of that system, but that those of chief concern are related to delays in using the system, lack of

outside doctors [illegible] of out [illegible] Coverage limits [illegible] which is current [illegible] unending battle [illegible].

The Acceptance of Physician Extenders

The most acceptable of the physician extender tasks was allowing an assistant to do preliminary questioning, medical history, blood pressure, etc. Ninety-five point seven percent (95.7%) were amenable to that idea. The second most acceptable task was allowing an assistant to stitch minor wounds (83.5% positive). Third most acceptable was allowing follow-up care after a physician had diagnosed the ailment and prescribed treatment (79.7%). Just below two-thirds of the respondents would allow doctors' assistants to give pre- or post-natal care (64.6%) and prescribe for minor illnesses (62.4%). However, a large gap exists between the final two items- "let assistant give post medical care" (36.8% approval) and "let assistant decide if the respondent will see a doctor" (36.2% approval).

There are few differences in the acceptance of physician extenders by different target groups. Most noteworthy is a slight tendency for Active Duty and Retired personnel and their dependents to favor the use of physician extenders in all areas more than either Survivor group. However, although these results are statistically significant they are relatively small in magnitude.

Dental Service Utilization and Costs

In general, [illegible] this section show substantial differences in dental [illegible] beneficiary class and certain differences in cost with beneficiary [illegible] studied. These latter differences center around the use of [illegible] care. Differences in dental visits associated with geographic location, [illegible] likely to make a greater number of visits, are substantially reduced [illegible] level is interpreted. These respondents with higher [illegible] to visit the dentist more often, other demographic [illegible] account for little difference in dental visits.

INTRODUCTION

Considerable speculation exists concerning the number of Military Health Services System (MHSS) eligible beneficiaries who do not use the MHSS, why they do not use the MHSS, and how they pay for their health care. Until recently no data existed by which to answer these questions. However, in 1973-1974, during the Military Health Care Study (MHCS),* MHSS beneficiaries in Northern California and a circumscribed area of Texas were interviewed on a variety of questions about their health and health insurance behavior. By examining various question combinations from the MHCS data, it has been possible to provide with moderate success answers to some of these questions.

Objectives: The overall objectives of this analysis were originally specified as: (1) to estimate the percent of MHSS eligible beneficiaries who do not use the MHSS; (2) to determine why they do not use the MHSS; (3) to estimate the percent of MHSS eligibles who have health insurance comparable to MHSS; (4) to determine how and why they acquire this health insurance coverage; (5) to determine the relationship between non-use of MHSS and health insurance coverage; (6) to determine the type of health insurance coverage (comprehensive, basic and major medical, CHAMPUS

*Report of the Military Health Care Study, Department of Defense, Department of Health, Education, and Welfare, and Office of Management and Budget, Washington, D.C., U.S. Government Printing Office, December, 1975.

supplemental, etc.) held by users and non-users of MHSS; and (7) to estimate dental utilization rates of and dental costs to beneficiaries. These objectives were divided into five general tasks which are described below. Each task is designed to respond to one or more of the questions. However, the tasks, as presented here, represent some modification from those described in the original Statement of Work. These changes reflect insurmountable shortcomings in the available data.* The study does address each area of concern, but some major modifications in the scope of the questions asked were necessary to achieve useful analysis.

Task 1 (Chapter IIIA of the Report): In this analysis the extent of MHSS use is described in the aggregate for each beneficiary class and for each user class. Beneficiary classes include active duty personnel, dependents of active duty personnel, retired personnel, dependents of retired personnel, survivors of retirees, and survivors of active duty personnel. The user classes are direct care users, CHAMPUS users, those who use both systems, and those who use neither system. Each descriptive analysis examines user patterns within both the Texas and California samples as well as for the combined sample.

Tasks 2 and 3 (Chapter IIIB of the Report): These tasks are directed toward determining the extent of non-MHSS insurance coverage and the

---

* A complete description of the data difficulties will be provided as part of Chapter 2, Methodology.

reasons that beneficiaries have such coverage. The absence of data on individual insurance records necessitated the completion of this task on the basis of family records. This means that analyses were based on family with at least one outside insurance policy and that the user type and beneficiary class of an individual must be inferred from data available on his family. Comparability of the outside programs with the MHSS and the "basis" for the outside coverage are determined from family records, also.* MHSS usage patterns for those families with outside programs and for families with different coverage bases are also described in this section. These analyses are meant to provide an indication of the reasons beneficiaries have for using outside systems. Because of the absence of individual data, it was not possible to investigate all of the non-MHSS programs covering eligible beneficiaries. What is presented, however, is descriptive analyses which at least suggest the extent of outside coverage and reasons for that coverage.

Task 4 (Chapter IIIC of the Report): Descriptive analyses in response to this Task were divided into three areas: (1) satisfaction and dissatisfaction with various aspects of medical service in general; (2) a comparison of military and civilian health care; and (3) responses to the

---

* "Comparability" of outside coverage with the MHSS occurs when the outside program provides at least some payment for medical and surgical costs for both inpatient and outpatient treatment.
"Basis" is defined as how and why "main subscribers" acquired the outside coverage.

acceptance of physician extenders. Each of these analyses was performed for each user type and beneficiary class. Thus, it was possible to determine how satisfaction with health care, comparison of various aspects of military and civilian health care, and the use of physician extenders to perform various services, was perceived in each group.

The evaluation of health care services includes several general categories such as convenience, quality of personnel, and service efficiency. The comparison of military and civilian health service is made on similar dimensions. All descriptive analyses were performed for both the general dimensions and individual items, although the more interesting results come from the dimensional analyses. Analysis of physician extender questions included an investigation of the extent to which items formed a unidimensional scale in an attempt to identify a threshold for the acceptable use of extenders and to see if that use was related to general MHSS usage patterns. In total, these results may be used to suggest how the MHSS could be improved to fill the medical needs of groups which are dissatisfied with current service.

Task 5 (Chapter IIID of the Report): This chapter describes the use and cost of dental services by each beneficiary class. The analysis also controls for various socio-economic and demographic characteristics. The results provide a detailed enumeration of the pattern of dental service usage and cost across beneficiary groups--and other individual characteristics.

The remainder of the Report will be presented in the following format:

(1) Methodology is discussed in the next chapter. The methodological discussion includes a description of the approach to data

analysis, a description of the survey used to collect data and its potential for generalization to the total population of beneficiary groups, the identification of basic variables used in the analysis and the development of new variables required to accomplish each task, and a discussion of data limitations which led to modifications in several of the original tasks.

(2) Results are discussed in four subsections which correspond to the tasks described above. Each analysis presents descriptions of relevant findings and data Tables to support the descriptions. Where appropriate, interpretations of the findings are presented. There are no overall study conclusions.

II. METHODOLOGY

A. Approach

The major objectives of this project are descriptive in nature; therefore the results of our analysis have been presented so as to maximize identification of important population and target group characteristics and differences (where they exist). This methodological objective is accomplished most effectively by using uncomplicated cross-tabulations and frequency distributions.* Thus, Task I, the identification of beneficiaries who use the MHSS system by type of use, was accomplished by developing a user group code and presenting a frequency distribution of the number of individuals in each group. This analysis was repeated for each beneficiary class and for the Texas and California subsamples. Task II, the description of alternative health program usage and its "basis," was accomplished by using similar techniques, but because of data limitations, in considerably less detail. Families, rather than individuals, comprised the unit of analysis in this task. Each family having at least one outside insurance plan was examined to determine "how and why" they obtained these policies and results were presented as frequency tables. In addition, a comparison between MHSS users and non-user families was made to determine the impact of alternative policy holding on frequency of use. This comparison was made by cross-tabulating user type with alternative availability. A second level analysis involved comparing MHSS usage with basis for outside insurance possession.

---

* The exception to this rule is the Guttman Scale Analysis used on the Physician Extender questions.

The use of families, rather than individuals, limits the ultimate usefulness of these analyses because it was not possible to identify which specific family member was covered by or used the policy and because the extent of coverage on other policies was unknown. However, the findings are suggestive of the range of possible outcomes and some of the reasons for obtaining outside coverage.

Task III, comparisons of satisfying and dissatisfying aspects of all health services, is conducted in a similar way. The unit of analysis is again the family, and the data are assumed to be valid interpretations of general family attitudes toward the various aspects of health service delivery systems.* Each of the three subtasks is executed by comparing beneficiary and usage categories to attitudes expressed on particular items and on thematic scales** which describe broader areas of medical service and the comparisons of the MHSS to civilian programs.

The final set of analyses, in Task IV, describe the use of dental care services and their cost. In this case it was possible to use individuals, not families, as the unit of analysis. The purpose of this task was to describe

---

* The absence of individual data creates several problems which require specific elucidation. First, one family member (the specific respondent) is speaking for all other members of the family. This could create bias in the answers provided. The fact that analyses presented here is aggregate, i.e., does not require specific individual to specific response linkages, partially alleviates this problem, as does the probability that biases which do occur are mediated by randomness, i.e., number of cases where positive bias occurs is offset by a similar number where negative bias occurs. Second, the use of family data limits the degree to which the important predictive variable beneficiary class can be applied. Because of peculiarities in the way the original data were coded and put on computer tape it is not possible to separate active duty dependents from their military sponsors or retired dependents from their retired military sponsors. Therefore, any differences between these groups, the military member and his dependents, are masked by the aggregation of the data.

** These scales are based on those developed by CHAMPUS for discussing different aspects of medical service delivery systems.

general dental care usage and costs, and to determine if these factors were related to an extensive set of potential predictor variables, such as beneficiary class, age, sex, etc. This analysis was accomplished by using basic cross-tabulation of first order relationships and of controlling for key potential intervening variables to perform second order comparisons. For example, groups of individuals falling into particular use X cost categories are then examined in terms of age, sex or other descriptive group differences. These analyses provide a detailed picture of dental care usage among the population described by the sample analyzed.

B. Sampling and Surveying

The data used in this study come from a 1973-74 sample of military beneficiaries in Northern California and a restricted area in Texas.* The sample is a probability sample, and therefore, is representative of the population of beneficiaries living in those areas. There were 5790 family interviews and a total of 16,093 individual subjects discussed in the survey. Surveying was conducted in waves over a four-month period using a very complex interview protocol. Many of the reported elements of this survey were based upon the observations of the interviewer and this may partially explain some of the data processing difficulties which were encountered in coding the results.

Among questions raised about these data was whether they represented the total population of military beneficiaries across the country. This question was examined by comparing the results on most items for each of the two geographic areas sampled. To the extent that the results agree it may be argued

* Section F of the Report of the Military Health Care Study, Supplement: Detailed Findings, December, 1975, discusses the sampling procedure in detail.

that the total sample is representative. However, there are several important shortcomings in this approach. First, while results showed general agreement between the two State samples the number of subjects in the Texas sample was very small. Second, it is possible that since our area sample included only two cases, Northern California and part of Texas, that similarities occurred entirely by accident or that these areas were similar while others are not. These problems do not prove or disprove the issue, but they do make it difficult to draw a final conclusion.

C. Delineation of Task-Relevant Variables

The analyses reported in subsequent chapters of this report were conducted using data contained in a sponsor-provided magnetic tape. The data describe the results of interviews of Military Health Service System (MHSS) beneficiaries.

Three types of records are contained on the tape, each type addressing the health and health insurance behavior of MHSS beneficiaries from different perspectives. The key record deals with health care experience at the family level. Individual records describe the health care experience of each member of the family identified in the key record. An insurance record, available for about eight percent of the families interviewed, was designed to contain detailed information on a family's participation in non-MHSS health programs.

Data contained in these records were intended to provide answers to a range of research questions wider than that defined for the present study. Thus it was necessary to identify those data types suitable, in their original, unmodified form, to each of the objectives discussed earlier; we refer to these data types as "original variables." In addition the available data did not describe a number of demographic and behavioral characteristics (for both families and individuals) necessary to the present research requirements. Wherever such

characteristics were not directly represented, they were constructed logically by means of systematic inferences drawn from the values of relevant original variables; inferred characteristics of families and individuals are called "constructed variables."

The following sections of this chapter document the original and constructed variables pertinent to each research objective. Description of an original variable is straightforward, i.e., its name, response alternatives, record location and column location. Deriving the values of a constructed variable involved the joint evaluation of several original variables. In order to fully describe these procedures, a decision logic table is presented for each constructed variable. Such a table defines for the set of relevant original variables the vector of values which dictates the value to be taken by the constructed variable.

Tables II.1, II.2, II.3, and II.4 present a summary description of all variables used in the present study. Each table gives the name of a variable, the type (original or constructed), the record where found (original variables) or stored (constructed variables) and the column position. When stored, a constructed variable was always placed in the unused filler at the end of a family or individual record.

Examination of Tables II.1 through II.4 shows that several variables enter the analysis for more than one objective. For those variables, detailed documentation will occur only for the first objective in which they are encountered.

Table II.1 Variables Used in Task 1.

Variables	Type	Record	Position
1. Individual MHSS User Type	Constructed	Individual	Col. 295
2. Individual Beneficiary Class	Constructed	Individual	Col. 296
3. Sampling Area	Original	Individual	Col. 1

Table II.2 Variables Used in Task 2

Variable	Type	Record	Position
1. Family Beneficiary Class	Constructed	Key	Col. 299
2. Family MHSS User Type	Constructed	Key	Col. 298
3. Why non-MHSS insurance obtained	Original	Key	Col. 230-240
4. How non-MHSS insurance obtained	Original	Key	Col. 79
5. Coverage provided by non-MHSS insurance	Original	Key	Col. 69-77
6. Type of non-MHSS insurance	Original	Key	Col. 68
7. Sampling Area	Original	Key	Col. 1

Table II.3 Variables Used in Task 3

Variable	Type	Record	Position
1. Family MHSS User Type	Constructed	Key	Col. 298
2. Sampling Area	Original	Key	Col. 1
3. Comparisons of Military and Civilian Health Care			
a. Specific Features	Original	Key	Col. 113-152
b. General Features	Constructed	Temporary	
1) Range of Services			Sum of Col. 113-120
2) Competence of Medical Personnel			Sum of Col. 121-126
3) Quality of Facilities			Sum of Col. 127-128
4) Human Relations			Sum of Col. 129-134
5) System Organization			Sum of Col. 136-146
4. Satisfaction with Features of Health Care Experienced Recently			
a. Specific Features	Original	Key	Col. 14-28
b. General Features	Constructed	Temporary	
1) System Organization			Sum of Col's 14-16 and 24-25
2) Human Relations			Sum of Col. 17-22
5. "Likes and Dislikes" Concerning CHAMPUS	Original	Key	Col. 170-185
6. Knowledge of CHAMPUS	Original	Key	Col. 11
7. Reasons for not using CHAMPUS	Original	Key	Col. 156-169
8. Acceptance of Physician Extenders	Original	Key	Col. 88-94

Table II.4 Variables Used in [illegible]

Variable	Type	Record	Position
1. Dental Costs	Original	Individual	[illegible]
2. Dental Visits	Constructed	Individual	[illegible]
3. Family Income	Constructed	Individual	Col. 400
4. Family Composition	Constructed	Individual	[illegible] 298-299
5. Age Group	Constructed	Individual	[illegible]
6. Individual Beneficiary Class	Constructed	Individual	[illegible]
7. Sex	Original	Individual	[illegible]
8. Sampling Area	Original	Individual	[illegible]

Objective 1: Determination of [illegible] not use the MDSS.

Objective 1 requires that individuals be [illegible] class and user type. The original [illegible] classification; thus construction of [illegible] and II.6 present the decision logic tables [illegible] beneficiary class. Table II.5 indicates [illegible] a decision concerning user type: (1) number of visits to a military clinic; (2) number of visits to a [illegible] doctor or clinic; and (3) whether CHAMPUS paid for any [illegible] ing on the values associated with these variables, [illegible] one of the user types listed below. The original variable [illegible] individual who has made between one and 9 (or more) visits to the military

Individual record: Col. 18-19 (Number of visits to military MTF, or clinic)	Ø1-97	Ø1-97	ØØ or 99	Ø1-97	ØØ or 99	ØØ or 99	ØØ or 99
Individual record: Col. 20-21 (Number of visits to VA clinic)	--	--	--	--	--	Ø1-97	ØØ or 99
Individual record: Col. 22-23 (Number of visits to civilian M.D. or clinic)	Ø1-97	ØØ or 99	Ø1-97	Ø1-97	Ø1-97	ØØ or 99	ØØ or 99
Individual record: Col. 24 (Any use of CHAMPUS: 1=yes; 2=no)	2	--	1	1	2	--	--
Direct and non-CHAMPUS civilian care (1 in Col. 295 of indiv. rec.)	X						
Direct care only (2 in Col. 295 of indiv. rec.)		X					
CHAMPUS use in non-direct care (3 in Col. 295 of indiv. rec.)			X				
Direct care and CHAMPUS use (4 in Col. 295 of indiv. rec.)				X			
Neither direct care nor CHAMPUS (5 in Col. 295 of indiv. rec.)					X		
VA care only (6 in Col. 295 of indiv. rec.)						X	
No health care services used (7 in Col. 295 of indiv. rec.)							X

Table II.5: Decision Logic Table Describing Criteria for Determining Military MHSS User Type.

and civilian health care facilities and who has made no use of CHAMPUS is typed as "direct and non-CHAMPUS civilian care." An individual making between one and 97 visits to a military facility and no visits to a civilian facility is typed as "direct care only." The remaining five categories are indicated on the Table.

Table II.6 indicates that an individual's beneficiary class is inferred from a consideration of sampling area; person number (designating head-of-house, spouse, child, etc.); relation to deceased military member; and year military member retired. Consider an individual whose sampling area value is one (active duty-California) or three (active duty-Texas); whose person number is 01 (sample person); and to whom the remaining two variables do not apply (9 and 99 respectively). This individual would be classified as an active duty member. Given the same information except that the person number is 02 or greater, the subject is classified as a dependent of an active duty member. The same pattern is completed for all other classifications and a total of six identifiable categories are created. These categories are identified in the left-hand column of Table II.6.

Table II.7 presents the third variable used in the analyses under Objective 1. "Sampling Area" defines both the geographic location and the service status of an individual and his family. In addition to its use as a decision factor for individual beneficiary class (cf. Table II.6), Sampling Area is used to divide the total sample so that the relation between user type and beneficiary class may be analyzed separately within each geographic region as well as over the full sample.

Table II.7 also indicates that Sampling Area is recorded in column 1 of the key record as well as the individual record; since a requirement of the

Individual record: Col. 1 (Sampling Area)	1 or 3	1 or 3	2 or 4	2 or 4	2 or 4	2 or 4	else
Individual record: Col. 8-9 (Person Number: Ø1=simple person; Ø2=spouse, etc.)	Ø1	Ø1	Ø1	Ø1	Ø1	Ø1	
Individual record: Col. 55 (Relation to deceased military member)	9	9	9	9	2, 3 or 4	2, 3 or 4	
Individual record: Col. 47-48 (Year military member retired)	99	99	Ø1-74	Ø1-74	99	Ø1-74	
Active Duty Member (CDM) (Col. 1, 24m of Indiv. rec.)	X						
[illegible] (Col. 1, 24m of Indiv. rec.)		X					
[illegible] (Col. 1, 24m of Indiv. rec.)			X				
[illegible] (Col. 1, 24m of Indiv. rec.)				X			
[illegible] (Col. 1, 24m of Indiv. rec.)					X		
[illegible] (Col. 1, 24m of Indiv. rec.)						X	
Not Ascertained (Col. 1, 24m of Indiv. rec.)							X

[illegible] Describing Criteria for Determining Individual [illegible].

Variable	Response Alternatives and Codes		Record	Column
Sampling Area and respondent status)			Individual, Key	1
	California: Active Duty	1		
	* California: Not Active Duty	2		
	Texas: Active Duty	3		
	* Texas: Not Active Duty	4		

* "Not active duty" refers to retired members, survivors of active duty members, and survivors of retired members.

Table A.7: Description of Original Variable Used in Task 1.

present study is to conduct analyses by geographic region as well as total sample, the repetition of Sampling Area in key records permits satisfaction of this requirement where the family is the unit of analysis.

Objective 2: Determination of: (a) MHSS eligible beneficiaries who have non-MHSS health programs by type of program; (b) MHSS users and non-users who have non-MHSS health programs comparable to the MHSS. Determination of how and why this coverage was obtained.

The analysis plan for Objective 2 called for the use of the detailed information contained in the insurance records. However, through examination of the data records it was determined that the variable values in these records were erroneous and would return meaningless or misleading analyses (see the subsequent section on documentation and data problems, for a more complete discussion).

Since partial information on non-MHSS insurance programs is contained in the key records, the decision was made to analyze that data for the more limited information that might be gained in relation to Objective 2.

Two classes of variables were used in these analyses: 1) variables characterizing families; and 2) variables [illegible] health programs and the bases for their acquisition. Tables [illegible] present the decision logic tables for the members of the first variable [illegible] Family Beneficiary Class and Family Unit Type. In both figures it is assumed that the categorization of a family depended on the [illegible] factors. Thus according to Table 11.8 [illegible] value of 2 or 3, [illegible] members are all in [illegible] dependent or retired member, [illegible] difference between [illegible]

[illegible] family's individual records	1 or 3	2 or 4	2 or 4	2 or 4	else
[illegible] individual benefit [illegible] family's individual records	--	3 or 4	5	6	
[illegible]	X				
[illegible]		X			
[illegible]			X		
[illegible]				X	
[illegible]					X

Table 12.4: [illegible] Table Describing Criteria for Determining Family [illegible] Beneficiary Class.

was not possible to separate active duty members from their dependents or retired military from their dependents. This creates some difficulties in interpreting the results of the analysis because some differences between the military member and his/her dependents would be anticipated.

Table II.9 presents a similar logic for determining family MHSS user type. Subsequent references to these categories will refer to Direct, not CHAMPUS as Direct Only and to CHAMPUS, not Direct as CHAMPUS Only. Other references will remain the same.

Insurance related variables are all of the original type. Table II.10 shows distinct variables related to how and why the non-MHSS insurance was obtained, the type of non-MHSS insurance, and the extent of coverage for each program. The latter variable was used as the basis for identifying programs comparable to the coverage provided by the Military Health Service System.

Objective 3: Comparisons of satisfiers and dissatisfiers between MHSS users and non-users.

The constructed variable entering into the analysis for Objective 3 is family MHSS user type, defined and discussed in the section on Objective 2, above. Table II.11 describes the original variables to be analyzed for this objective. These variables fall into three distinct groupings: (1) those dealing with features of recently experienced health care, generally; (2) those dealing with comparisons of various features of military and civilian health care, likes and dislikes concerning CHAMPUS, and reasons for not using CHAMPUS; and (3) acceptance of physician extenders (assistants).

The variables classified under "comparisons" of military and civilian health care and under satisfaction with health care "generally" can be addressed individually or in terms of intermediate groups defined by the original survey

If the values of Col. 295 (Individual MHSS user type) of the individual records for a given Family include:	4	3 and 1	3 and 2	3 but not 1,2, or 4	2 or 2 but not 3 or 4	5,6, or 7 but not 1,2,3, or 4	else
Then Family MHSS user type is:							
Direct, not CHAMPUS (1 in Col. 298 of key rec.)					X		
CHAMPUS, not Direct (3 in Col. 298 of key rec.)				X			
Both Direct and CHAMPUS (4 in Col. 298 of key rec.)	X	X	X				
Neither Direct or CHAMPUS (5 in Col. 298 of key rec.)						X	
Not Ascertained (9 in Col. 298 of key rec.)							X

Table II.9: Decision Logic Table Describing Criteria for Determining Family MHSS User Type.

Table II.10: Description of Original Variables Used in Task 2

Variable(s)	Response Alternatives and Codes		Record	Column(s)
How Non-MHSS insurance obtained	Work or union	1	Key	79
	Individual	3		
	Military organization	4		
	Fraternal organization	5		
	Other organization	6		
	Professional organization	7		
	Does not apply	9		
	Not ascertained	0		
Why Non-MHSS insurance obtained:				
Free or automatic	*Mentioned	1	Key	230
Income protection	Not mentioned	2	Key	231
Had it before	Don't know	3	Key	232
Future (not in service or ineligible	Does not apply	9	Key	233
	No codable answer	0		
Fear can't buy later			Key	234
More benefits desired			Key	235
Fear reduction in military benefits			Key	236
Dissatisfied with military			Key	237
Ineligible			Key	238
Too far from base			Key	239
Other			Key	240
Type of Non-MHSS insurance	Blue Plan (Blue Cross and/or Blue Shield	1	Key	68
	Dental only	2		
	Kaiser	4		
	CHAMPUS Supplement	5		
	Other	6		
	Student Health	7		
	No insurance	9		
	Not ascertained	0		

*Alternatives the same for each variable.

(Continued)

Table II.10: Description of Original Variables Used in Task 2 (Continued)

Variable(s)	Response Alternatives and Codes		Record	Column(s)
Coverage provided by Non-MHSS insurance				
Accident/Illness	Accident only	1	Key	69
	Illness also	2		
	*Does not apply	9		
	*Not ascertained	0		
Flat sum/amount care	Flat sum	1	Key	70
	Depends on amount care	2		
	Don't know	3		
Hospital/too ill to work (if flat sum payment)	Only in hospital	1	Key	71
	Too ill to work	2		
	Don't know	3		
Illness covered	Rare only	1	Key	72
	All illness	2		
Hospital cost paid (if all illness covered)	Yes	1	Key	73
	No	2		
	Don't know	3		
Pay any part of surgery	Yes	1	Key	74
	No	2		
	Don't know	3		
Pay doctor bill other than surgery	Yes	1	Key	75
	No	2		
	Don't know	3		

* Alternatives the same for each variable.

(Continued)

Table II.10: Description of Original Variables Used in Task 2 (Continued)

Variable(s)	Response Alternatives and Codes		Record	Column(s)
Coverage provided by Non-MHSS insurance (Cont.)				
Pay doctor office call	Yes	1	Key	76
	No	2		
	Don't Know	3		
Major/master medical	Major medical only	1	Key	77
	Part of basic plan	2		
	Neither			
	Don't Know	4		

Table II.11: Description of Original Variables Used in Task 3

Variable(s)	*Response and Entities who Given for Task 3	Record	Column
COMPARISONS OF MILITARY AND CIVILIAN HEALTH CARE			
Military vs. Civilian Dental Care		Key	113
Military vs. Civilian Emergency Care		Key	114
Military vs. Civilian Specialists		Key	115
Military vs. Civilian Pharmacy Service		Key	116
Military vs. Civilian Preventive Care		Key	117
Military vs. Civilian Long-Term Care		Key	118
Military vs. Civilian Comprehensiveness		Key	119
Military vs. Civilian Services		Key	120
Military vs. Civilian Physicians		Key	121
Military vs. Civilian Corpsmen		Key	122
Military vs. Civilian Nurses		Key	123
Military vs. Civilian Dentists		Key	124
Military vs. Civilian Personnel		Key	125
Military vs. Civilian Staff		Key	126
Military vs. Civilian Hospital Plant		Key	127
Military vs. Civilian Ambiance		Key	128
Military vs. Civilian Togetherness		Key	129
Military vs. Civilian Doctors Concern		Key	130
Military vs. Civilian Staff Concern		Key	131
Military vs. Civilian Doctors Courtesy		Key	132
Military vs. Civilian Staff Courtesy		Key	133
Military vs. Civilian Inpatient and Provider Communication		Key	134
Military vs. Civilian Proximity to Home		Key	135
Military vs. Civilian Appointment Ease		Key	136
Military vs. Civilian Choice of Doctors		Key	137
Military vs. Civilian Waiting Time in Office		Key	138

*See Table II.13 for description of response alternatives and codes.

Table II.11: Description of Original Variables Used in Table 3 (Continued)

Variables	*Response Alternatives and Codes for Task 3	Record	Column(s)
COMPARISONS OF MILITARY AND CIVILIAN HEALTH CARE			
Military vs. Civilian Other Waiting Time		Key	139
Military vs. Civilian Out-of-Town Care		Key	140
Military vs. Civilian CHAMPUS Alternative		Key	141
Military vs. Civilian Red Tape		Key	142
Military vs. Civilian System Coordination		Key	143
Military vs. Civilian Medical Records		Key	144
Military vs. Civilian Dependent Care		Key	145
Military vs. Civilian System Org.		Key	146
Military vs. Civilian Cost		Key	147
Military vs. Civilian Sense of Security		Key	148
Military vs. Civilian Continuity of Care		Key	149
Military vs. Civilian Patients General Attitude Toward		Key	150
Military vs. Civilian Screening Process		Key	151
Military vs. Civilian Preferential Treatment		Key	152

*See Table II.11 for description of response alternatives and codes.

(Continued)

Table II.11: Description of Original Variables Used in Task 3 (Continued)

Variables	*Response Alternatives and Codes for Task 3	Value	Column
SATISFACTION WITH FEATURES OF RECENTLY EXPERIENCED HEALTH CARE			
Wait on Phone Before Asking for Appointment		Key	14
Time It Takes on Phone to get Appointment		Key	15
Phone Time in an Emergency		Key	16
Courtesy by Doctors		Key	17
Courtesy by Nurses		Key	18
Courtesy by Others ("Appointment Makers")		Key	19
Courtesy by Others When Told It's Urgent		Key	20
Courtesy by Receptionist		Key	21
Courtesy by Medical Staff		Key	22
Doctor Care		Key	23
Medical Care Over Time		Key	24
See Various Doctors		Key	25
One Doctor for Health Problems		Key	26
Red Tape		Key	27
Type Medical Services Covered		Key	28

*See Table II.1 for description of response alternatives and codes.

Table II.1: Description of Original Variables Used in Task 3

"LIKES AND DISLIKES" CONCERNING CHAMPUS				
CHAMPUS Premium Cost	*Positive Statement	1	Key	171
	Negative Statement	2		
	Positive and Negative	3		
	Neither Type	4		
	Don't Know	8		
	Does not Apply	9		
	No Codible Answer	0		
CHAMPUS Services Covered			Key	171
CHAMPUS Changes in Benefits			Key	172
CHAMPUS Limit Times on Eligibility			Key	173
CHAMPUS Acceptability to Doctors			Key	174
CHAMPUS Incomplete Reimbursement			Key	175
Preference for Civilian Doctors Service			Key	176
Convenience of Civilian Facilities			Key	177
CHAMPUS Paperwork or Red Tape			Key	178
CHAMPUS Time before Reimbursement			Key	179
CHAMPUS Advantage When Out-of-Town			Key	180
CHAMPUS System Organization			Key	181
Freedom of Choice CHAMPUS Providers			Key	182
Other Advantages/Disadvantages of CHAMPUS			Key	183
Discriminatory Treatment of CHAMPUS Patients			Key	184
CHAMPUS Frees Military Doctors			Key	185

* Alternatives/codes apply to each variable.

(Continued)

Table II.11: Description of Original Variables Used in Task 3 (Continued)

Variable(s)	Response Alternatives and Codes for Task 3		Record	Column(s)
KNOWLEDGE OF CHAMPUS	Have Used	1	Key	11
	Know but Haven't Used	2		
	Heard About	3		
	Never Heard About	4		
	Not ascertained	0		
REASONS FOR NOT USING CHAMPUS				
Good Health	*Mentioned	1	Key	156
	Not Mentioned	2		
	Active, No Dependents	3		
	Does not Apply	9		
	No Answer	0	.	
Care is Limited			Key	157
Use Military Care			Key	158
Of Other Coverage			Key	159
Haven't Needed it			Key	160
Other Reasons			Key	161
Of Incomplete Coverage			Key	162
Of Red Tape			Key	163
Of Short Comings			Key	164
Of Cost			Key	165
Of Ineligibility			Key	166
Didn't Know of Eligibility			Key	167
Lack of Knowledge			Key	168
Other Reasons (Specific)			Key	169

* Response alternatives/codes apply to each.

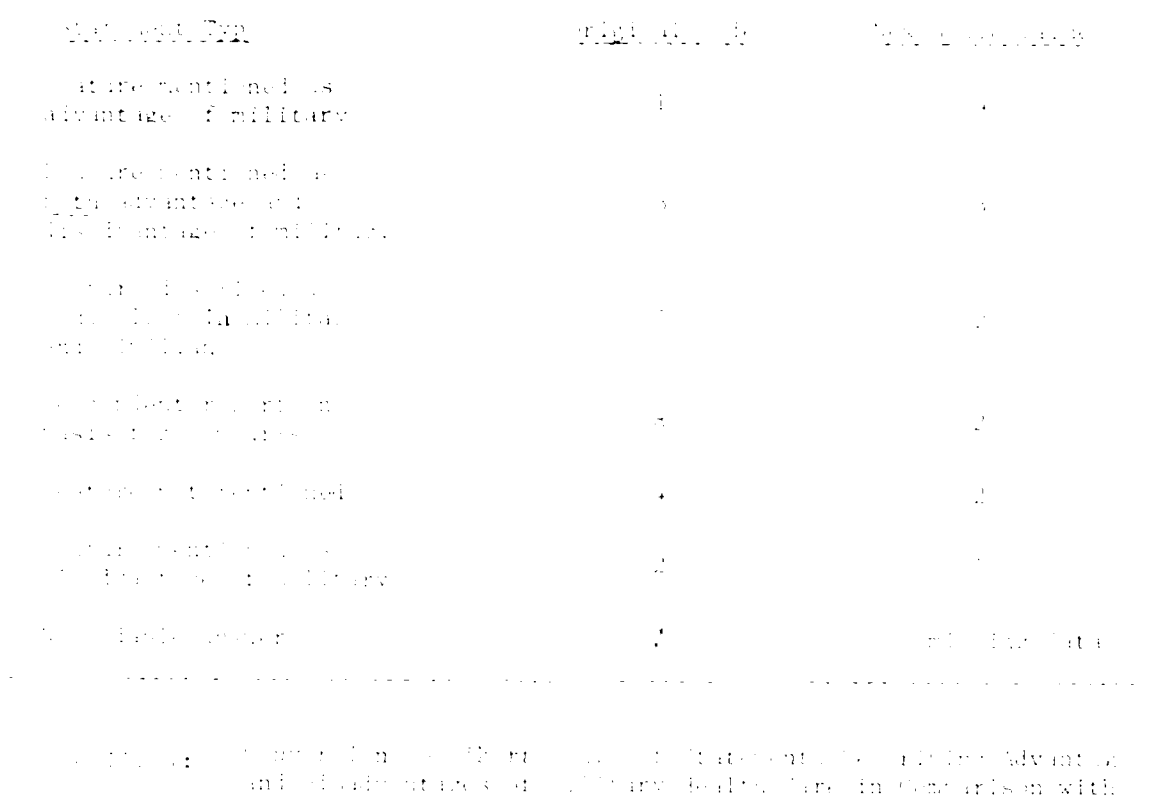
(Continued)

Table II.11: Description of Original Variables Used in Task 3 (Continued)

Variable	Response to Question and Code for Task 3	Code	Source
ACCEPTANCE OF PHYSICIAN EXTENDERS			
Willing to let Assistant do Preliminary (history/exam)	*Yes 1 No 2 *Undecided 3	Dev	**
Willing to let assistant decide appointment		Dev	**
Willing to let assistant do follow-up		Dev	*
Willing to let assistant prescribe medications		Dev	**
Willing to let assistant prescribe for diagnosis		Dev	**
Willing to let assistant stitch minor wounds		Dev	**
Willing to let assistant give routine medical care		Dev	**

Statement Type	Original Study	Two Weeks Later
Completely satisfied with feature	1	5
Generally satisfied with feature	2	
[illegible]	5	[illegible]
Not too satisfied with feature	3	[illegible]
Not at all satisfied with feature	4	[illegible]
[illegible]	M	[illegible]

[illegible]



Individual record: Col. 30-31 (Number of visits to dentist in last 12 months)	00	01	02	03-05	06-12	12	99
No visits (0 in col. 30/31 of indiv. rec.)	X						
1 visit (1 in col. 31 of indiv. rec.)		X					
[illegible] (col. 31 of indiv. rec.)			X				
[illegible] visits [illegible] col. 31 of indiv. rec.)				X			
[illegible] 12 [illegible]					X		
More than 12 [illegible] col. 31 of indiv. rec.)						X	
Not ascertained (99 in col. 31 of indiv. rec.)							

[illegible] criteria for categorizing individual [illegible]

Key record: Col. 100 (Family Income by family)	1	2	3	4	5	6	7	8	9	Ø
For each family member set Col. 300 of individual record to:										
1 (Under $6K)	X									
2 ($6K-$7,999K)		X								
3 ($8K-$9.999K)			X							
4 ($10K-$14.999K)				X						
5 ($15K-$19.999K)					X					
6 ($20K-$24.999K)						X				
7 ($25K-$29.999K)							X			
8 ($30K-$39.999K)								X		
9 ($40K or more)									X	
Ø (Not ascertained)										X

Table 11.16: Logic Table Describing Family Income

Individual record: Col. 57-58 (Age in years)	Ø1-12	13-19	2Ø-99	Else
Child (1 in Col. 297 of indiv. rec.)	X			
Teen (2 in Col. 297 of indiv. rec.)		X		
Adult (3 in Col. 297 of indiv. rec.)			X	
Not ascertained (Ø in Col. 297 of indiv. rec.)				X

Table II.17: Decision Logic Table Describing Criteria for Determining an Individual's Age Category.

Individual record: Col. 8-9 (Person Number)	≠Ø1	≠Ø1	ØØ
Individual record: Col. 1 (Sampling Area)	2 or 4	1 or 3	--
Determine number of eligible persons (Col. 11-12 of indiv. rec)	1	1	--
Copy number eligibles into Col. 298-299 of indiv. rec.	2	--	--
Subtract 1 from number of eligibles and copy into Col. 298-299 of indiv. rec.	--	2	--
Skip to next record	3	3	1

Decision Logic Table Describing Criteria for Determining and Recording Family Composition (defined as Number of Eligibles Excluding Active Duty Members)

must be used to indicate the appropriate actions and their order of execution. The result of this action is a value indicating the number of beneficiaries, from 1 to N.

D. Documentation and Data Problems

The previous sections describe in detail the variables selected for analysis and the procedures used to develop the "constructed" variables. That thoroughness is in part due to the standard of professional report preparation. It is in equal part due to the fact that important descriptors of benficiary and user characteristics and behaviors are, in a number of instances, based on multiple inferences and not on direct assessment. Responsible persons who may use the findings of this study in policy and program planning must be in a position to evaluate the criteria employed in variable construction and decide whether the ensuing data analysis truly reflects the phenomena of interest.

The difficulties encountered in designing data analyses maximally responsive to the research objectives stem from a persistant lack of complete documentation for the data tape and from irregularities in the tape contents. In the area of documentation, several problems occurred. In one of the most critical, two types of "individual beneficiary"--Survivor of Active Duty member and Survivor of Retired member--eluded accurate enumeration for some time. It was eventually learned that in the definition of the "sampling area" variable contained in the file documentation was in error. Since sampling area was used in the assignment of individuals to a beneficiary class, the documentation error was reproduced in the analysis software.

In the comparison of satisfiers and dissatisfiers among MHSS users and non-users, several potentially useful variable sets had to be passed over due to ambiguous documentation or incomplete data. For example, forty-one questions

dealing with several aspects of health care were eliminated from consideration because a single column which indicated whether the respondent was discussing military or civilian experiences had not been coded. In other instances coding of health care service evaluation questions failed to discriminate the initial positive or negative position of the respondent making interpretation of results about particular problem areas impossible. Part of the problem resulted from the original questionnaire which required respondents who were favorable to MHSS to find "something wrong" with the system and those who were unfavorable to find "something good" about the system. Responses were coded together with no means to determine whether the responses were something good by a negative respondent or something bad by a positive respondent.

The most significant data irregularity occurred in the case of the insurance records. These records were intended to provide detailed information on as many as five non-MHSS health insurance plans per family. As part of the preliminary examination of these records a sample was printed out. It was found that within each sample record the fields describing plan features, persons covered, and reasons for plan acquisition were virtually identical for all plans to which the family "subscribed." Upon confirmation from the sponsor that such data patterns should not occur, the entire file of insurance records was checked by computer program and found to exhibit the same anomolous pattern displayed by the first sample of records. Attempts to obtain documentation of the programs used to assemble the insurance records were fruitless, rendering recovery for the error impossible. Thus the insurance records had to be discarded in favor of the limited insurance data contained in the key records. (The disadvantages of this situation were discussed above.)

The foregoing data and documentation problems notwithstanding, the authors believe that the variables selected for the present study are appropriate to the research objectives. Specifically, the constructed variables described above

are reasonable estimates of their empirical counterparts, the analyses reported in subsequent chapters provide useful information about the survey sample.

CHAPTER III: RESULTS

Each of the four subsections described in the RESULTS will address a separate topic. In III.A a general description of the overall usage of the MHSS will be presented. In III.B the extent of outside insurance coverage will be described and the "bases" for that coverage will be documented. Attitudes toward general health services, a comparison of civilian and military health care systems, and attitudes toward the use of physician extenders will be covered in III.C. The final subsection, III.D, will present results on dental care usage and costs, as well as an analysis of socio-economic and demographic predictors of usage patterns.

A. MHSS General Usage Pattern

A total of 16,093 beneficiary respondents provided information on their use of the medical services in the twelve month period immediately preceding the MHSS survey. Table III.A.1 shows a breakdown of the basic pattern of that usage. Approximately one-half of the respondents used only direct care services. This number accounted to almost 60% of those who actually used health care during the twelve months prior to the survey. Thus, the direct care system constitutes by far the largest single service source. CHAMPUS users constitute slightly less than 11% of total users (adding the CHAMPUS only and direct plus CHAMPUS rows in the table), while civilian only and civilian plus direct care are more than 26% of total users. This means that the potential for CHAMPUS use is much higher than is currently being demanded. If, for example, all of the Civilian only and Civilian plus Direct users were to change to CHAMPUS, the demand would have been about 140% greater than it was. (Reasons that eligible beneficiaries do not use the CHAMPUS system will be examined in section III.C.)

Table III.A.1: General Usage of MHSS

	Total Sample	Health Care Users
Direct Care Only	50.7% (N 8166)	59.7
Direct Care + CHAMPUS	4.7 (751)	5.5
CHAMPUS Only	4.6 (742)	5.4
Direct Care + Other Civilian	11.7 (1876)	13.6
Civilian Only	11.1 (1790)	13.0
VA Only	2.6 (420)	3.0
No Health Care in Past 12 Months	14.6 (2348)	-
Total N	(16093)	(13745)

The breakout for health care service usage for each sampling area, northern California and Texas, is presented in Table III.A.2. The proportions of individuals in each sampling area who use various combinations of services are very similar. The most important differences occur in the use of Direct Care Only and Civilian Only categories. Direct Care is less prominent and Civilian Care more prominent for the Texas sample. While these differences are statistically significant they are small in magnitude and may be attributable more to sampling differences (see discussion of usage by beneficiary class below) than to real population differences. Whether the degree of similarity between the two samples constitutes an argument for the generalizability of the total sample to the entire population of beneficiaries is problematic. At this general level it may be possible to discuss usage patterns of the total

population, but on more specific issues, to be described later, there is greater difficulty attributable to more specific differences.

Table I.I.A.2: General Usage of MHSS by Sampling Area

	Northern California	Texas
Direct Care Only	31.1%	17.6
Direct Care and CHAMPUS	1.7	1.0
CHAMPUS Only	1.5	5.1
Direct Care and Other Civilian	11.9	9.7
Civilian Only	10.9	13.1
VA Only	2.5	5.0
No Health Care in Past 12 Months	11.1	15.8
Total N	11573	17.8

The general usage pattern data described above are clarified when examined by beneficiary class in Tables III.A.3 and III.A.4. Table III.A.4 presents combined sample results. The Table shows the large differences found in the usage patterns of each beneficiary group. In general, the table demonstrates that the farther a beneficiary group is away from direct contact with Active Duty military, the less likely is contact with the direct health care system and the greater is the likelihood for using only civilian health care. Thus, Active Duty dependents are most likely to use direct care and survivors least likely to use that system. Civilian service usage, on the other hand, is highest among survivor groups.

CHAMPUS usage is remarkably similar among all groups except Active Duty military personnel. This is especially true when two usage patterns, CHAMPUS Only and Direct Care and CHAMPUS are combined. Excluding Active Duty personnel the range is from 9.8% for Retired Military to 15.1% for Survivors of Retirees. This narrow range suggests the possibility of some particular

Table III.A. [illegible] of CHAMPUS by Beneficiary Class (Total Sample)

[illegible]	[illegible]	Dependents of Active Duty Military	Retired Military	Dependents of Retired Military	[illegible]	[illegible]
[illegible]	7.1	36.2	30.5%	27.2%	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	1.5	1.1	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	17.1	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

narrow factors in the CHAMPUS waiver, although these factors are not evident here.

In examining differences between beneficiary classes it is evident that Retired Personnel and their dependents represent the most homogeneous beneficiary groups. Their usage patterns vary only slightly. Survivors of Retired Personnel also show a similar pattern although they differ slightly in Direct Care and Civilian Only usage. These three groups, however, might be represented as having substantially the same pattern. Active Duty personnel and their dependents, while being most oriented toward the use of Direct Care, are significantly different in their use of civilian care. Possible explanations for the group differences will be discussed in III.B, on alternative forms of insurance, and III.C, on attitudes.

The separate State patterns on these factors are shown in Part III.A.4. The California and Texas usage patterns are more notable for their similarity than for their differences. Although a few significant differences are present, the samples may be said to exhibit the same essential usage patterns and, therefore, the pattern that existed for the total sample. The largest difference in total use (Table III.A.2) is that which occurred in Direct Care Col.1 in California and Col.6 in Texas). The difference is attributable to the slightly higher proportion of Active Duty personnel in the Texas sample (20.4% to 12.3%), since Active Duty personnel are more likely to use Direct Care than any other group. Higher Direct Care usage is exhibited by all beneficiary classes in California.

However, the general pattern of similarity does not mean that the generalizability of the total sample to a general population characteristics, but only that the two subsamples are more alike. Further analyses

[illegible] Percent Distribution of TSS by Beneficiary Class (By State)

	Active Duty Military		[illegible] Active Duty Military		Retired Military		Dependents of Retired Military		Survivors of Active Duty Military		Survivors of Retired Military	
	CA	IX	CA	IX	CA	IX	CA	IX	CA	IX	CA	IX
[illegible]	57.3	5[illegible].8	[illegible].7	51.9	[illegible].8	53.9	57.8	52.8	21.[illegible]	15.[illegible]	[illegible].9	
[illegible]	.[illegible]	.[illegible]	7.1	5.8	1.5	2.8	1.1	1.9	2.1	.[illegible]	[illegible].9	
[illegible]	.[illegible]	.[illegible]	5.[illegible]	5.5	5.2	5.1	7.9	9.1	5.7	11.[illegible]	6.8	
[illegible]	.[illegible]	.[illegible]	13.[illegible]	14.2	15.[illegible]	7.1	14.[illegible]	8.5	9.1		11.[illegible]	
[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	20.7	18.1	17.[illegible]	20.9	11.[illegible]	17.1	[illegible].8	
[illegible]					17.7	25.1	.[illegible]	.[illegible]				
[illegible]	.[illegible]	.[illegible]	11.[illegible]	12.[illegible]	.1		22.[illegible]	25.1	11.1	15.[illegible]	[illegible].[illegible]	
[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	1[illegible].1	21.[illegible]	3[illegible].5	1[illegible].[illegible]	57.[illegible]	7[illegible].[illegible]	3[illegible].[illegible]	
	.[illegible]	.[illegible]	.[illegible]	.[illegible]	1[illegible].1	1[illegible].[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]	.[illegible]

still describe [illegible] the differences were simple sign permits, although some of the positive and negative findings will be noted in the text because of the recurrent set of [illegible] patterns.

The most important findings of this section are that direct care use varies with distance from an active relative's person and that the use of [illegible] varies little across beneficiary groups. These findings will be examined in terms of alternative insurance availabilities and bases, and attitudes toward health care systems in the following sections.

As reported earlier, [illegible] in the insurance records necessitated the use of insurance data stored in the [illegible] records. Since the latter record [illegible] families, the unit of analysis in this section must be the family rather than the individual. Further, each record can document only [illegible] non-MHSS insurance plan, thus each family included in the following analysis is characterized in terms of a single plan. Findings based on families must necessarily be less predictive of beneficiary behavior than if the unit of analysis were individuals who very likely differ in health experience even within the same family. Additionally, the data-imposed limit of one policy per family restricts the generalizability of findings concerning the non-MHSS health plans identified here.*

1. Prevalence of Non-MHSS Health Programs

The analysis for Objective 1 reveals that [illegible] of all families participating in the survey have at least one non-MHSS health insurance plans. Table III.5.1 shows that retired and survivor families are the beneficiary classes where the highest proportion of outside plans are held. Active duty families, as might be expected, are least likely to have outside plans. This is probably the result of greater usage of direct care services and a lower incidence of easily obtainable outside sources of such policies—particularly outside [illegible].

Sample data are divided into State subareas (also presented in Table III.5.1) and the results indicate little difference between the two areas despite the relatively small number of cases [illegible].

Table III.5.2 shows that the most frequently held and identified insurance programs are the "Blue Plan" (Blue Cross/Blue Shield) and the CHAMPUS Supplemental plan (19.1 and 17.3, respectively). The "other" category is the largest [illegible].

* Also, there was no [illegible] discussed together [illegible].

Table III.C.1: Family Beneficiary Class by Number and Percent of Families Subscribing to Non-DHSS Health Insurance Plans

	Total Sample		California		Texas	
Family Beneficiary Class	N	%	N	%	N	%
Active Duty	356	32.1	317	32.6	39	8.2
Retired	902	50.2	823	50.5	79	86.2
Survivors of Active Duty	103	33.4	82	32.2	21	39.6
Survivors of Retired	91	50.3	88	39.5	3	200.0
	1452		1310		132	

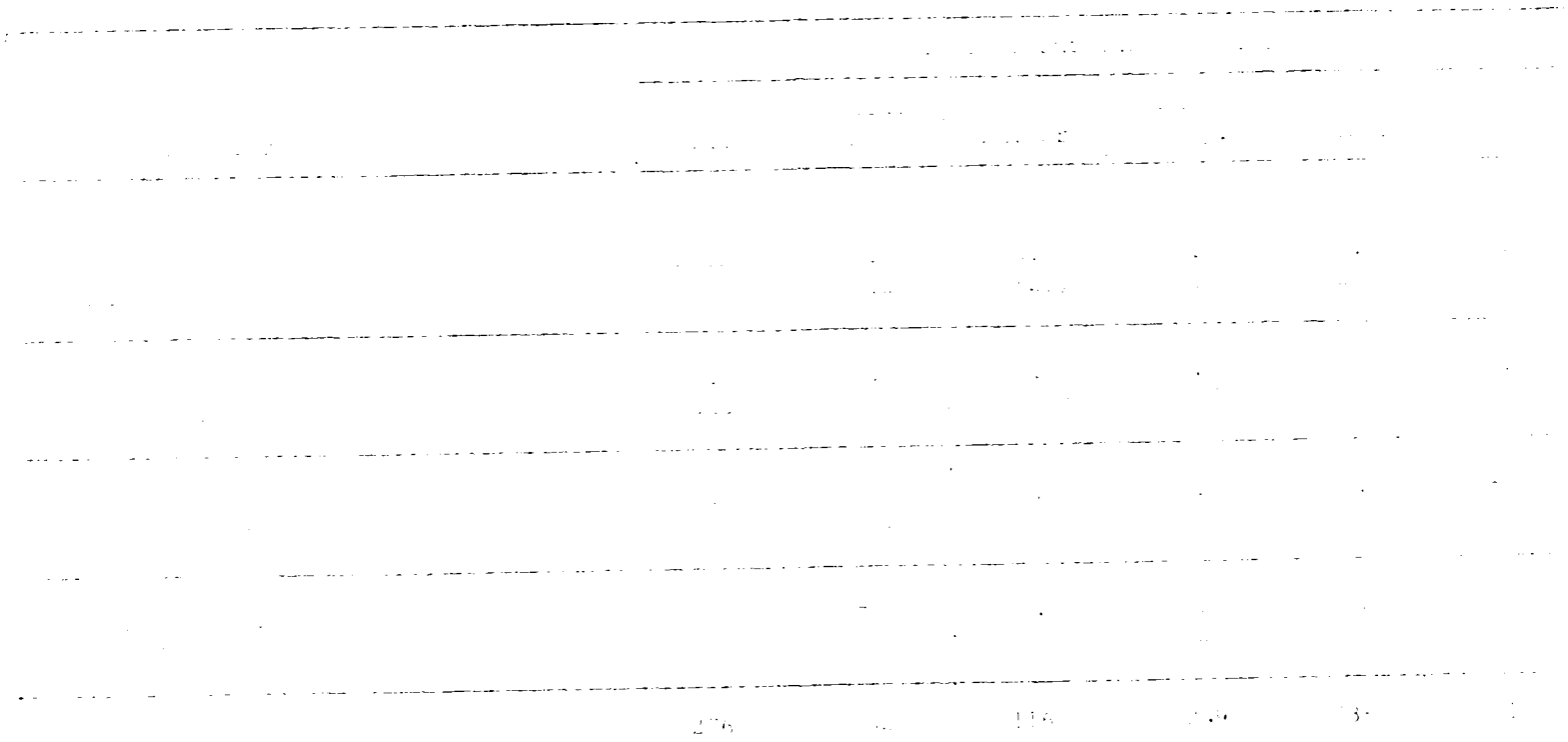
Table III.B.2: Percent of Families Subscribing to Different Non-HMSS Health Insurance Plans

	Type of Outside Insurance						
	Blue Plan	Mental only	Kaiser	HMSS supp.	Other	Student	Total
All Families	19.1% (276)	3.6 (52)	8.0% (116)	17.3% (250)	51.2% (738)	0.8% (11)	100% (1442)
[illegible]	13.9 (248)	2.4 (52)	6.9 (116)	17.9 (234)	59.5 (649)	0.8 (11)	100 (1310)
[illegible]	23.2 (28)	0.0 (0)	0.0 (0)	11.4 (15)	62.4 (89)	0.0 (0)	100 (132)

but specific identification of these other plans is not provided in the data. The results are similar in California and Texas, despite a slight divergence for Texas families who are somewhat more likely to have "Other" plans (66.7%) and less likely to use CHAMPUS Supplementary plans (11.4%). The Kaiser plan, which is used by 8.9% of the California sample, is available only in that state.

The distribution of plan types across family beneficiary class is similar to that found for families generally. Table III.B.3 shows the same order of incidence in each of the beneficiary classes. In addition, the magnitude of the occurrance in each class is approximately the same with the exception of Retired Military and Dependents, who are somewhat less likely to use the "Other Plan" and somewhat more likely to use the CHAMPUS Supplementary plan. The distribution of plan types for family beneficiary classes in the California sample (Table III.B.4) is virtually identical to that found for the total sample. The Texas sample (Table III.B.5) is somewhat less similar, but the differences may well be due to sampling fluctuations occurring as a result of the small numbers of policies in that region.

Table III.B.6 presents the sources of non-CHAMPUS insurance for each family beneficiary class. "Work or Union" (60.2%), and "Individual Subscription" (13.9%) are the two most frequently occurring sources. The Table shows that among Active Duty and Retired families, work or union occurs most often (66.5% and 64.8%, respectively). This is probably a result of outside employment by dependents and the lack of felt need to pursue such outside policies. Survivors, on the other hand, do not have the direct military connection and are more likely to seek outside insurance. Hence despite the fact that their benefits may not be considerably different from the other beneficiary classes, almost 1/2 (47.7%) of the Active Duty survivors have obtained their insurance individually. Another 1/3 of Retired families with outside policies are about



[illegible] by Beneficiary Class ([illegible])

[illegible]	[illegible] (8)	-		[illegible] (1)	[illegible] (10)	-	
[illegible]	[illegible] ([illegible])	-	-	3.2 ([illegible])	[illegible] (51)	-	
[illegible]	[illegible]	-	-	[illegible] ([illegible])	71.4 ([illegible])	-	
[illegible]	-	-		-	100.0 (3)		
	25	0	0	15	89	0	132

Table III.5.c: Where Outside Insurance Was Obtained
by Beneficiary Class (Total Sample)

	[illegible]	[illegible]	Military	Fraternal	Other	Professional	
[illegible]	[illegible]	53.9 (47)	3.4 (3)	1.1 (1)	3.4 (3)	1.1 (1)	[illegible]
[illegible]	[illegible]	[illegible]	28.1 (23)	2.4 (2)	8.5 (7)	3.7 (3)	[illegible]
[illegible]	[illegible]	[illegible]	8.0 (7)	0.0 (0)	8.0 (7)	0.0 (0)	[illegible]
[illegible]	[illegible]	[illegible]	37.2 (29)	0.0 (0)	3.8 (3)	3.8 (3)	[illegible]
	[illegible]	162	275	3	23	4	[illegible]

equally likely to have individually obtained policies or policies obtained through military organizations (probably veterans organizations).

Results for the California sample naturally reflect the total sample results. Data for Texas are somewhat different but the N in three of the four Beneficiary Classes is too small to permit reliable analysis.

The bottom row of Table III.B.7 shows the distribution of reasons for obtaining outside insurance. Most prominant among them is the fact that it was "free or automatic" ([illegible]), probably as a consequence of work or other organizational membership. The next two most cited reasons were reflections of dissatisfaction with available MHSS alternatives. They were "more benefits desired" ([illegible]) and "dissatisfaction with military" ([illegible]). Other reasons demonstrate a variety of individual concerns and perceptions of future events, but most are quite small in their endorsement.

The distribution across beneficiary classes reveals some interesting variations in the general pattern. The "free or automatic" reason ranges from a high of 55.4% among Active Duty and Dependents to 16.8[illegible] among Survivors of Retired Military. Thus, the "farther" a family is from having a member on Active Duty, the greater is the likelihood [illegible] adequate insurance, at least in the minds of the respondents. Greater benefits is, with one exception, the most likely reason for obtaining other policies. The exception is a substantial group (27.4[illegible]) of Survivors of Active [illegible] military who perceive themselves as ineligible for adequate MHSS care. A number of Survivors of Retired also had previous policies (13.9[illegible]) of [illegible] type. While these figures do not provide definitive [illegible] they do indicate a perception on the part of many in the various beneficiary classes that MHSS is deficient in some areas.*

[illegible]

Table [illegible]: [illegible] Insurance Obtained by Beneficiary Class

[illegible]	[illegible]	[illegible]	[illegible]	Future	Fear Can't Buy Later	More Benefits Desired	Fear Reduced Military Benefits	Dissatisfied with Military	[illegible]	Too Far From Base	[illegible]
[illegible]	[illegible]	8.6 ([illegible])	[illegible] ([illegible])	8.1 ([illegible])	0.3% (1)	11.2 (44)	0.5% (2)	6.6% (26)	[illegible] (1)	2.6% ([illegible])	[illegible]
[illegible]	[illegible]	3.4 ([illegible])	[illegible]	1.2 (12)	0.6 (6)	30.2 (307)	2.0 (20)	6.3 (64)	0.7 ([illegible])	5.4 ([illegible])	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible] ([illegible])	[illegible] (0)	23.7 (25)	0.9 (1)	3.8 (4)	27.[illegible] ([illegible])	[illegible].8 ([illegible])	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	1.0 (1)	1.0 (1)	37.6 (38)	3.0 (3)	3.0 (3)	[illegible]	10.9 (11)	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	2.9 (47)	.5 (8)	25.6 (414)	1.6 (26)	6.0 (97)	2.7 (44)	4.9 (80)	2.3 ([illegible])

[illegible] and Coverage

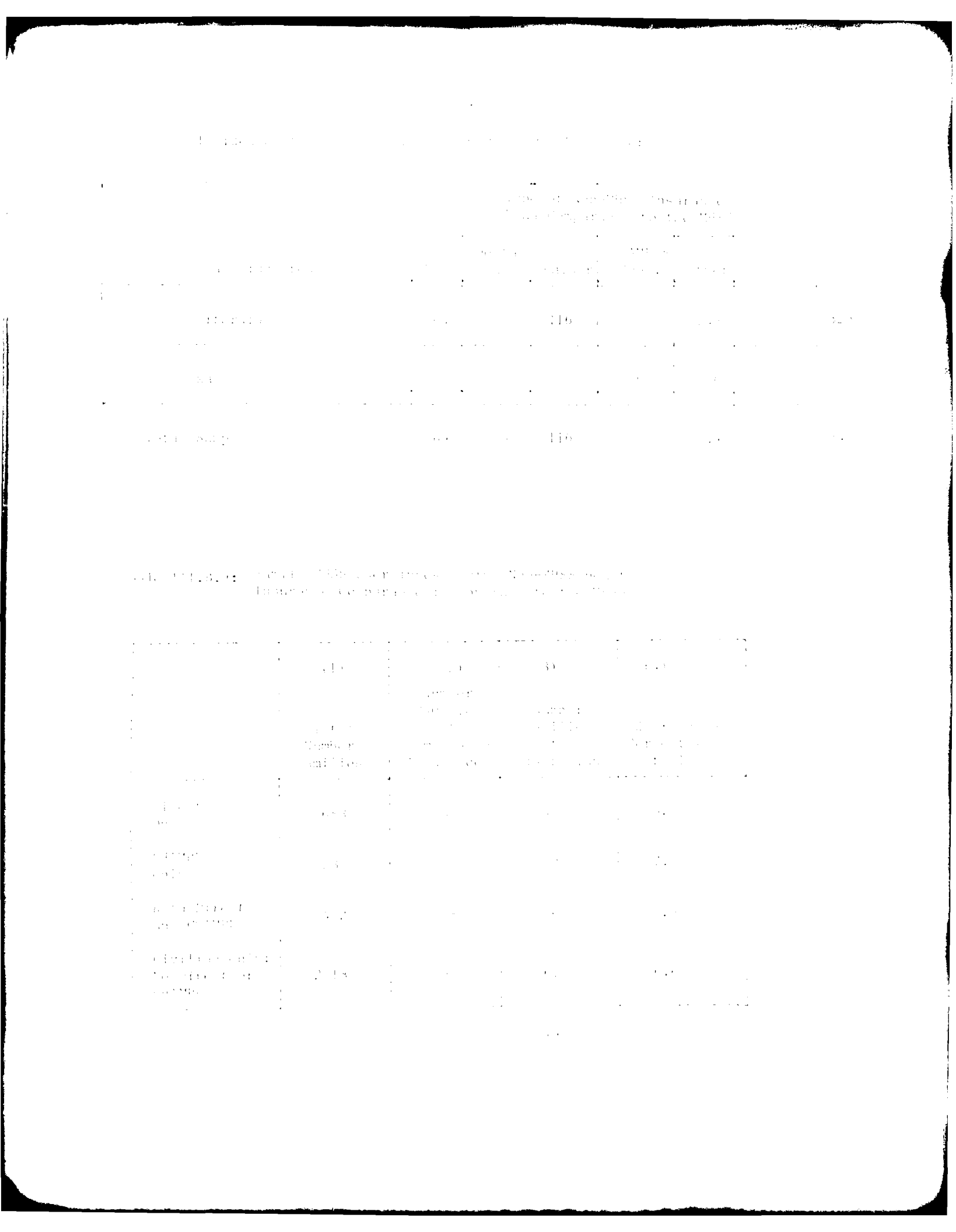
In the [illegible] section the number of [illegible] were identified and described in terms of their [illegible] classes. In this section that analysis is refined by separating out those programs which are comparable to the services offered by the [illegible] setting the bases for those programs from MEDS users and non-users.

The first step in this analysis was to identify the comparable insurance programs among the more than 1400 identified in the previous section. For this purpose a set of questions about the extent of outside insurance coverage were examined and the results of that examination was used to identify a [illegible] respondent families who had comparable programs. In order to be considered comparable the program had to include: (1) accident and illness coverage; (2) [illegible] sum or amount of care dollar coverage; (3) hospital/too ill to work coverage; (4) all illnesses; (5) hospital costs paid; (6) all surgery paid; (7) [illegible] other than surgery paid; (8) office calls paid; and (9) major/master medical as part of basic plan. There were [illegible] families with [illegible] known families with alternative programs.

Perhaps the most notable characteristic of [illegible] insurance programs is the extensiveness of their coverage. [illegible] its scope is [illegible]

[illegible] information was available [illegible] number of [illegible]

[illegible] Although we do not have the [illegible] proportion [illegible]



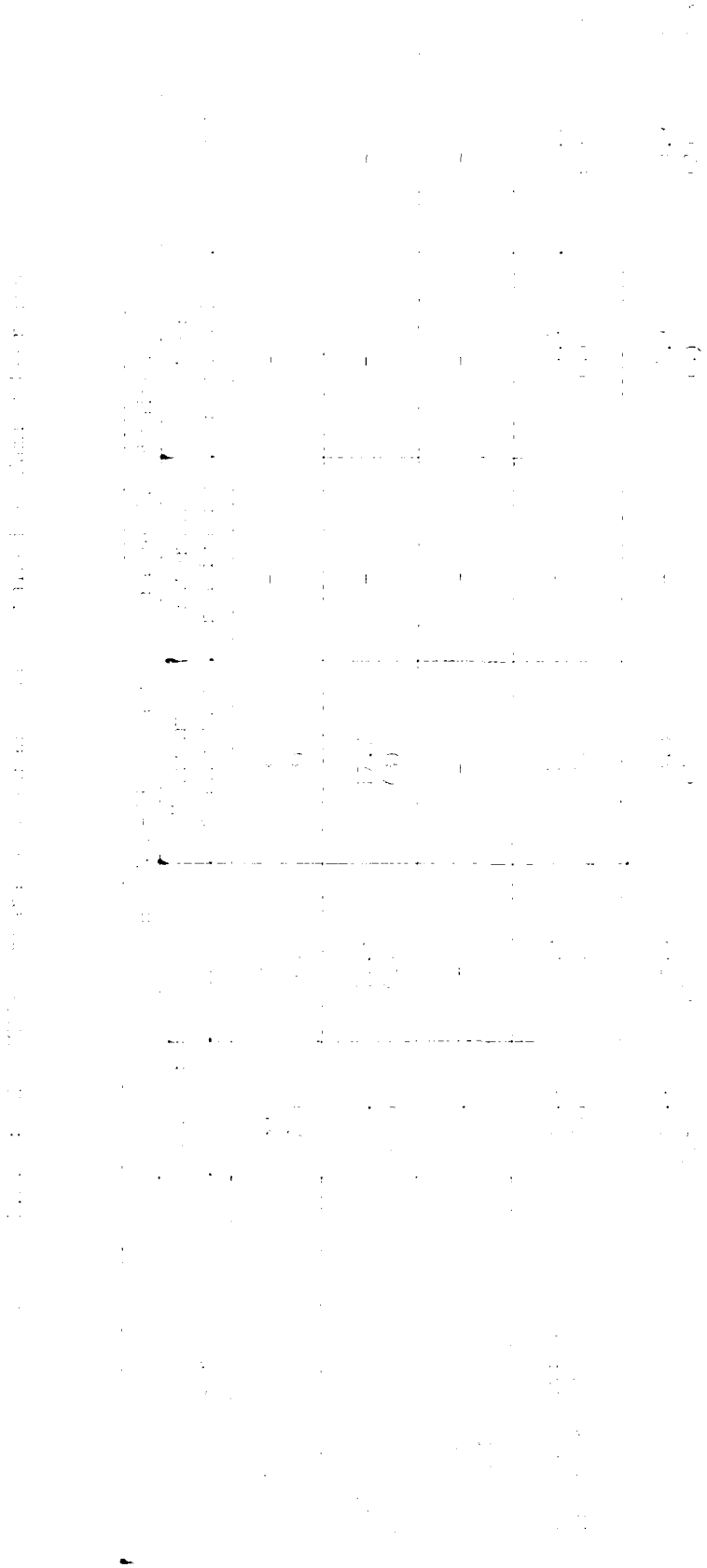


Table III.3.11: How Kaiser Insurance was Obtained by Family User Type

Family User Type	How Non-MEIS Health Insurance Was Obtained						
	Work or Union	Individual	Military Organization	Fraternal Organization	Other Organization	Professional Organization	
Direct [illegible]	93.5% (43)	6.5% (3)	--	--	--	--	46
[illegible]	--	--	--	--	--	--	
[illegible] Direct [illegible]	100.0 (5)	--	--	--	--	--	5
Civilian Univ: [illegible] Direct or [illegible]	84.8 (50)	8.5 (5)	--	--	6.7 (4)		59
	89.1 (98)	7.3 (8)			3.6 (4)		100.0 (110)

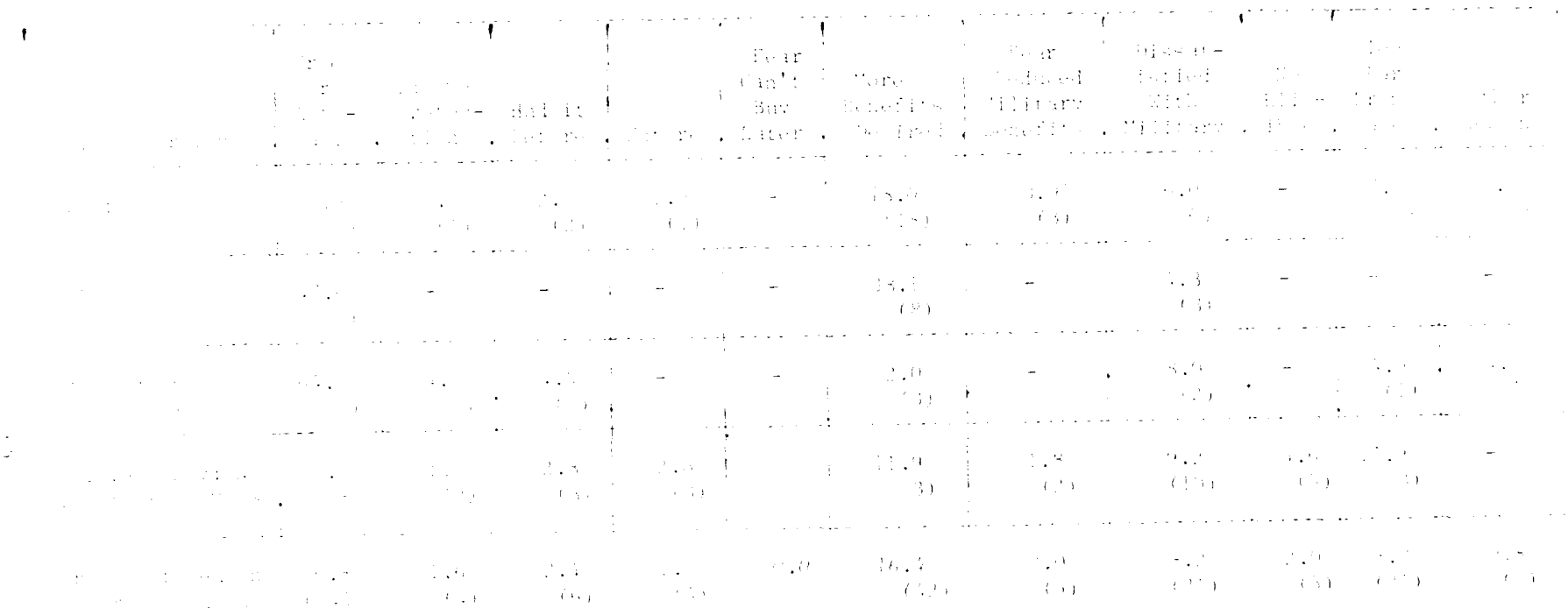


Table III.B.13: Why Kaiser Insurance was Obtained by Family User Type

Family User Type	Free or Auto-matic	Income Protec-tion	Had It Before	Future	Fear Can't Buy Later	More Benefits Desired	Fear Reduced Military Benefits	Dissat-isfied With Military	Not Elig-ible	Too Far From Base	Other Reasons	
Direct only	58.1% (32)	1.8% (1)	5.5% (3)	--	1.8% (1)	5.5% (3)	--	12.7% (7)	-- (4)	7.3% (4)	7.3% (4)	100%
CHAMPUS only	--	--	--	--	--	--	--	--	--	--	--	
Both Direct and CHAMPUS	57.1% (4)	--	--	14.3% (1)	--	14.3% (1)	--	--	--	14.3% (1)	--	100%
Either Direct or CHAMPUS	44.9% (33)	1.4% (1)	8.1% (6)	--	--	9.8% (5)	1.4% (1)	17.6% (13)	6.8% (5)	4.1% (3)	9.5% (7)	100%
	50.3% (69)	1.8% (2)	7.9% (9)	1.8% (1)	1.8% (1)	7.9% (9)	1.8% (1)	17.5% (20)	4.4% (5)	7.0% (8)	9.6% (11)	136

unspecified reasons (Table III.B.12). Among Kaiser policy holders it is civilian medical care users that deviate the most where only 44.6% obtained automatic or free coverage. Among the total Kaiser participants 17.5% are dissatisfied with military care (Table III.B.13). These groups represent a very small proportion of total MHSS users, however.

Another substantial group indicates they have adopted alternative policies because they are too far from a military base (8.2%) (Table III.B.13). It is interesting to note that the user groups who contribute most extensively to this category are not CHAMPUS users. Apparently these families believed that outside coverage is the only reasonable alternative to direct care.

The most important non-automatic reason for alternative insurance is the desire for greater benefits among comparable policy holders (Table III.B.1). It is unclear from the question whether the improvement is over direct care or CHAMPUS alternatives. For CHAMPUS users the implication is clear, but for others it is less clear. A comparison of the reasons for obtaining these "comparable" policies and the reasons for any policy (Table III.B.7) provides some interesting clues about insurance policy choices among these respondent families. The group with comparable policies is somewhat more likely (56.8%) to list "free or automatic" as a reason for having the policy than the total group (53.9%).* The comparable group is also somewhat less likely to cite faults with the MHSS than the total group, 24.6% to 31.6%. These figures suggest that it may be special coverages which are being sought by insurance policy holders in general, although there are no hard data to verify this conjecture. Among Kaiser participants general dissatisfaction predominates for those not receiving automatic coverage.

*Since the number of [illegible] groups, [illegible] from those [illegible] "comparable" [illegible] the [illegible] level of "[illegible] the [illegible] [illegible] [illegible] [illegible].

In summary, this section provides some interesting clues about the use of alternative comparable health care programs. Generally, the appearance of these programs is attributable to the automatic action of jobs rather than a conscious effort to find an improved program. This finding is true for all family user types. Perhaps more important is the fact that so few respondents have such programs at all, less than 6%. The level of dissatisfaction with MHS, at least to the degree the alternatives are sought, is apparently relatively low. It may be dangerous to conclude, however, that these figures summarize the good health of the system. The number seeking outside policies may be attenuated by the prohibitive cost and, as analysis in Section C of this Chapter will indicate, there are many areas of dissatisfaction with the MHS.

III. [illegible] SATISFACTION AND DISSATISFIERS

The analysis presented in this section is divided into three parts based on the three different types of questions about medical service. In the first part questions which require respondents to evaluate "various aspects of medical service" will be examined. These questions require a general evaluation of 15 medical services received during the previous twelve months. For each service differences between user type and beneficiary classes are described. Part 2 describes respondent perceptions of differences between civilian and military health care services in 41 different areas. These services are grouped into five major factors, dental services, personnel, facilities, human relations, and [illegible], for the analysis, which is performed using both user type and benefit [illegible] class as moderators. Specific problems, where group differences in perception are significant, are presented in separate analyses. In addition, questions on the use of CHAMPUS are examined in an attempt to identify reasons for failure to use that system.

Part 3 describes respondent reaction to the [illegible] service encounters. This analysis is again performed using user type and beneficiary type as moderators. Also, an investigation of the [illegible] questions using the Guttman scale [illegible] analysis. Although the [illegible] substantial differences in the [illegible]

the approved [illegible] gation and added further [illegible] results, but this [illegible] interest [illegible]

discriminate differences in attitude toward medical services and the comparison of civilian and military health care than was user type (the primary predictor variable). On the questions involving physician extenders it was beneficiary class which resulted in the only significant intergroup differences.

From a methodological perspective the analysis performed was restricted by the form of the available data. Examination of attitude questions was performed using families as the unit of analysis. This means that one family member answered attitude questions for all other family members. This was the only form in which these data are available. The extent to which this meant that responses were biased by the perceptions of the particular respondent is, of course, unknown. But there seems little reason to doubt that such biases exist. For purposes of this study it may be assumed that biases "average out" over the whole sample. The use of aggregated categories helps reduce the impact of such biases also. However, some of the possibilities should be considered before final conclusions are drawn. Probably, the most important of these is the possibility that active duty personnel and even retired active duty personnel may have a more favorable impression of military medical services than do their dependents. This may foster a somewhat false impression of the favorability with which military health care services are perceived. One indication of this is the tendency for survivor groups, with no active duty respondents, to perceive civilian care as better in all categories of service than either group whose active personnel [illegible]. Because [illegible] this question in the [illegible] unit [illegible], it was not possible to separate active duty dependents and retired dependents from their active duty and retired military [illegible]
[illegible].

Examination of differences between the California and Texas samples produced some differences, but the small Texas sample reduced the possibility of examining these differences in greater detail. In general, the difference which did occur seems more likely to be the result of unequal distributions on other factors than "State" differences. However, it was not possible to pursue the plausible explanations to their logical conclusions.

One final comment is in order before beginning the detailed description of results. The explanatory power of "user type" and "beneficiary class," although often statistically significant, is relatively small in magnitude. There are obviously other factors which explain differences in the relative satisfaction with medical services. Unfortunately, the scope of this project did not permit the investigation of some of those factors for which data are available. It is possible, also, that the MHCS survey did not include what would be some of the most important explanatory factors.

C.1 Satisfaction with Various Medical Services

Satisfaction with medical services is presented in two basic forms, as an item by item list and as aggregated evaluations formed by summing the scores on two sets of items with a similar substantive content. The presentation of these satisfaction results is cross-tabulated on four dimensions: (1) by total sample; (2) by State subsample; (3) by user type; and (4) by beneficiary class. Analysis of user type and beneficiary class controlling for State were performed also, and will be discussed but not presented here. The order of results presentation is as follows: (A) item satisfaction for the entire sample; (B) item satisfaction by State; (C) item satisfaction by user type; (D) aggregate scale satisfaction by user type; (E) item satisfaction by beneficiary class; and (F) aggregate scale satisfaction by beneficiary class.

a. Item satisfaction for the Whole Sample: Table III.C.1 presents results for level of satisfaction on each of 15 different aspects of general medical service as it was perceived by family unit respondents in terms of services they received during the 12 months prior to being interviewed. The answers refer to all medical services regardless of whether they were military or civilian supplied. Dissatisfaction was greatest in the areas of "waiting on the phone to get an appointment" (item 2) and having "one doctor for (all) health problems" (item 13). These were the only two areas where the "not at all satisfied" response category exceeded 10%. Two sub-questions received a large number of dissatisfaction responses. These were "time on the phone in an emergency" (a sub-question of waiting on the phone to get an appointment), which included only those who had indicated they were dissatisfied on the general question (item 3) and "courtesy by those who make an appointement when urgent" (a sub-question of courtesy of those making appointments), which included responses only from those who were dissatisfied on the general question (item 7). These two questions constituted the only areas where satisfaction was less than 50%.* Those areas showing the least dissatisfaction were questions involving courtesy of doctors, nurses, and receptionists (items 4, 5 and 8).

In general, if the two sub-questions are excluded, the level of satisfaction with medical service exceeds 90% in all but one case (one doctor for health problems--item 13--is 88.9%). For item which may be judged to be of greatest importance, doctor's care (item 10) is perceived as satisfactory by more than 95% of the respondents. The area in which the greatest difficulty exists, based on these questions, is emergency situation handling.

* The higher level of negative responses on these two items could be partially attributable to the fact that respondents had already expressed a negative response on the more general satisfaction question.

Table III.C.1

Satisfaction by Type of Service [illegible]

Type of Service	Not at All Satisfied	Not [illegible]	[illegible]	[illegible]	[illegible]	Total
1. [illegible] phone before [illegible] for [illegible]	9.2 (330)	14.2 (8[illegible])	7.5 (42[illegible])	[illegible] (2313)	2[illegible].8 (1651)	5732**
2. Wait on phone to get appointment	[illegible] (89)	21.1 (1210)	6.7 (38[illegible])	3[illegible] (21[illegible])	24.6 (1376)	5731
3. [illegible] on phone in [illegible]*	16.[illegible] (294)	24.[illegible] (43[illegible])	12.1 (216)	46.[illegible] (837)	--	[illegible]
4. Courtesy by doctors	2.8 (162)	8.[illegible] ([illegible]07)	.3 (17)	[illegible].[illegible] (206[illegible])	[illegible].[illegible] ([illegible]8)	[illegible]
5. Courtesy by nurses	2.1 (118)	8.0 (456)	4.0 (232)	3[illegible].3 (2196)	[illegible]	5731
6. [illegible] by those taking [illegible]	4.3 (248)	13.2 (7[illegible])	[illegible] (1[illegible])	[illegible]	3[illegible].2 (20[illegible])	[illegible]
7. [illegible]	17.2 (172)	39.1 (39[illegible])	17.3 (173)	2[illegible].3 (263)	--	[illegible]
8. [illegible] by [illegible]	[illegible] (1[illegible])	[illegible]	2.0 ([illegible])	4[illegible] (2[illegible]8[illegible])	30.[illegible] (2[illegible]8)	57[illegible]
9. [illegible]	3.6 (2[illegible])	1[illegible].8 ([illegible])	[illegible] (14[illegible])	[illegible].2 (2[illegible]33)	37.0 (2172)	57[illegible]
10. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11. [illegible] by [illegible]	[illegible]	[illegible]	[illegible]	[illegible] (1679)	38.0 ([illegible])	[illegible]
12. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13. [illegible]	[illegible]	20.0 ([illegible])	[illegible]	[illegible]	[illegible]	[illegible]
14. [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] (386)	[illegible]

[illegible]

b. Item Satisfaction [illegible]. Tables III.C.2 and III.C.3 provide an item by item breakdown for the California and Texas subsamples. Prior to inspecting differences it should be noted that due to the difference in sample size a special situation applies. Because the California subsample accounts for almost 90% of the total sample a very substantial difference in the Texas sample would be required to make the California subsample significantly different from the total sample. In other words, the California respondents are, for all intents and purposes, the same as the total sample. The Texas respondents, however, can be quite different without causing a noticeable change in the total response. For this reason subsequent analyses of State differences will concentrate on Texas, where the only significant differences from the total sample will occur.

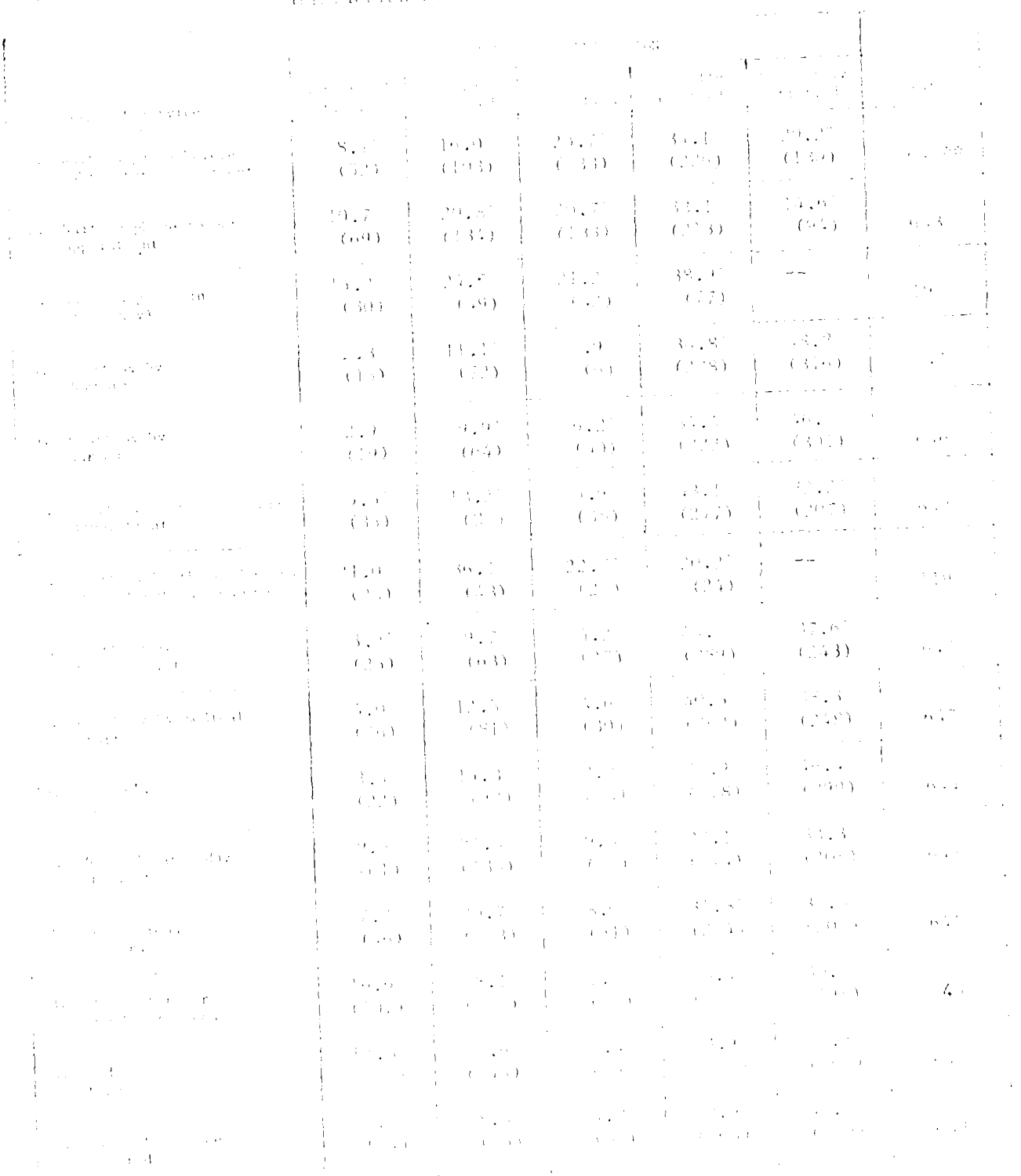
In general, the Texas respondents are somewhat more likely to be dissatisfied with medical services than are California respondents (compare first two columns of Tables III.C.2 and III.C.3). In the one instance where this does not occur--"one doctor for (all) health problems", item [illegible]--the failure of the pattern is due to a high incidence of "[illegible]" responses rather than [illegible] satisfaction. [illegible]

Table III.C.2

Satisfaction by Type of Service (California)

Type of Service	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1. Wait on phone before ... for appointment	9.4% (478)	14.0% (713)	5.7% (289)	41.0% (2087)	29.9% (1521)	5088**
2. ... on phone to get appointment	10.2% (520)	21.1% (1076)	4.9% (249)	38.5% (1961)	25.2% (1282)	5088
3. ... on phone on ... day*	16.7% ([illegible])	24.4% (387)	11.0% (175)	47.9% (760)	--	1585
[illegible]	2.9 (147)	8.5% (437)	.2 (11)	35.8% (1823)	52.5% (2672)	[illegible]
[illegible]	1.9% (99)	7.7% (392)	3.8% (192)	38.8% (1974)	47.7% (2428)	[illegible]
[illegible]	4.2% (213)	13.2% ([illegible])	2.2% ([illegible])	43.6% ([illegible])	36.7% (1866)	[illegible]
[illegible]	16.7% (157)	34.5% ([illegible])	[illegible]	[illegible]	--	[illegible]
[illegible]	2.5% (125)	[illegible]	1.7 (89)	[illegible]	[illegible]	[illegible]
9. ... by medical staff	3.3% ([illegible])	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10. [illegible]	3.1 ([illegible])	10.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	3.7 ([illegible])	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
... for ...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table III.C.3



c. Item Satisfaction by User Type: Tables III.C.4 through III.C.18 present results for each of the satisfaction items cross-tabulated by user class. The user classes are: (1) those who use direct military care only (47.1%); (2) those who use CHAMPUS only (4%); (3) those who use both direct care and CHAMPUS (7.9%); and (4) those who use only civilian medical services (40.9%).

Textual description of these tables will be held to a minimum and will stress highlights and commonalities in the results. The reader may inspect the tables for detailed specific differences. To further ease the burden of interpretation, results described will concentrate on dissatisfaction. Satisfaction responses are generally the complement of dissatisfaction responses and it was felt the emphasis should be on problem areas which are highlighted by this focus. One additional methodological comment is in order. Given the size of the sample virtually all Tables exhibit a statistically significant χ^2 result. Therefore, these will not be presented. Of greater concern is the magnitude of the differences which do occur.

Generally, dissatisfaction levels are similar for all user types. At the very least, they vary together across all items. Where exceptions do occur they are of two general types: (1) respondents using direct care are more likely to be dissatisfied than those who do not use direct care (in three instances); and (2) those using CHAMPUS are more likely to be dissatisfied than those who do not use CHAMPUS (two instances). The remainder are single item differences or no differences.

The three cases in which direct care users (both direct only and direct care and CHAMPUS categories) are more likely to be generally [illegible] dissatisfied are: (1) wait on phone before asking for an appointment (Table III.C.[illegible]); (2) time it takes on phone to get appointment (Table III.C.[illegible]); and (3) [illegible] one doctor for health problems (Table III.C.16). The differences, however, are not large enough to [illegible] the [illegible] rate [illegible].

AD-A100 853 HUMAN RESOURCES RESEARCH ORGANIZATION ALEXANDRIA VA F/G 6/5
MILITARY HEALTH SERVICE SYSTEM: NON-USER AND USER PERCEPTIONS A--ETC(U)
JUN 77 R J OREND, R D ROSENBLATT MDA903-77-C-0040
UNCLASSIFIED HUMRRO-FR-ED-77-14 NL

2 OF 3
AD A
100853

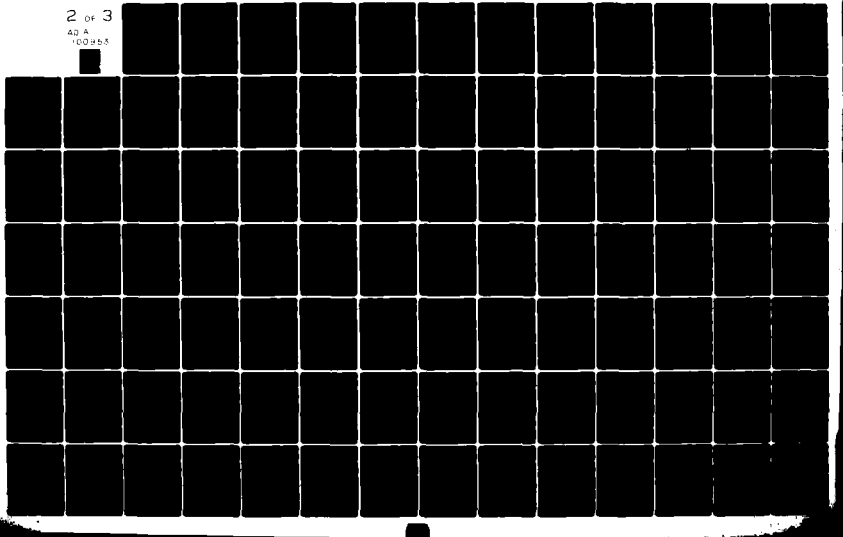


Table III.C.4: Satisfaction with Wait on Phone Before Asking for Appointment

User Type	Level of Satisfaction: Not at all Satisfied	Not too Satisfied	No Observations	Generally Satisfied	Completely Satisfied	Total
Direct Care Only	10.4% (280)	15.8% (427)	3.9% (106)	42.9% (1157)	27.0% (727)	2697
CHAMPUS Only	8.5% (20)	10.2% (24)	9.3% (22)	33.1% (78)	39.0% (92)	236
Direct Care and CHAMPUS	12.1% (55)	11.9% (51)	4.6% (21)	45.0% (204)	26.3% (119)	453
Civilian Only: No Direct or CHAMPUS	7.5% (175)	13.3% (311)	11.6% (273)	37.2% (873)	30.4% (713)	2345
Not Ascertained				100.0% (1)		1
					Total	5732

Table III.C.5: Satisfaction with Time it Takes on Phone to Get Appointment.

User Type	Level of Satisfaction					Total
	Not at all Satisfied	Not too Satisfied	No Observations	Generally Satisfied	Completely Satisfied	
Direct Care Only	11.5% (310)	22.4% (604)	3.7% (101)	40.9% (1103)	21.4% (578)	2696
CHAMPUS Only	7.2% (17)	14.0% (33)	7.6% (18)	37.7% (89)	33.5% (79)	236
Direct Care and CHAMPUS	13.9% (63)	24.5% (111)	2.9% (13)	39.5% (179)	19.2% (87)	453
Civilian Only: No Direct or CHAMPUS	8.5% (199)	19.7% (462)	10.7% (250)	34.2% (802)	27.0% (632)	2345
Not Ascertained				100.0% (1)		1
					Total	5731

Table III.C.6: Satisfaction with Time on Phone in an Emergency*

User Type	Level of Satisfaction: Not at all Satisfied	Not too Satisfied	No Observations	Satisfied	Total
Direct Care Only	17.5% (159)	21.7% (197)	10.4% (94)	50.4% (458)	908
CHAMPUS Only	14.0% (7)	24.0% (12)	10.0% (5)	52.0% (26)	50
Direct Care and CHAMPUS	16.7% (29)	29.9% (52)	11.5% (20)	42.0% (73)	174
Civilian Only: No Direct or CHAMPUS	15.2% (99)	26.9% (175)	14.9% (97)	43.0% (280)	651
				Total	1783

* Of those dissatisfied with time it takes to get an appointment, Table 3.5.

Table III.C.7: Satisfaction with Courtesy by Doctors

User Type	Level of Satisfaction					Total
	Not at all Satisfied	Not too Satisfied	No Observations	Generally Satisfied	Completely Satisfied	
Direct Care Only	2.4% (64)	8.4% (226)	.1% (3)	37.7% (1018)	51.4% (1386)	26[illegible]
CHAMPUS Only	3.0% (7)	10.6% (25)	0% (0)	29.7% (70)	56.8% (134)	236
Direct Care and CHAMPUS	2.9 (13)	11.7% (53)	0% (0)	40.8% (185)	44.6% (202)	453
Civilian Only: No Direct or CHAMPUS	3.4% (78)	8.6% (203)	.6% (14)	33.6% (789)	53.9% (1265)	2349
Not Ascertained					100.0% (1)	1
					Total	5736

Table III.C.8: Satisfaction with Courtesy by Nurses.

User Type	Level of Satisfaction					Total
	Not at all Satisfied	Not too Satisfied	No Observations	Generally Satisfied	Completely Satisfied	
Direct Care Only	2.2% (58)	8.6% (231)	2.2% (59)	40.3% (1086)	46.8% (1261)	2695
CHAMPUS Only	3.0% (7)	6.4% (15)	3.4% (8)	37.3% (88)	50.0% (118)	236
Direct Care and CHAMPUS	2.0% (9)	12.1% (55)	1.5% (7)	43.9% (199)	40.4% (183)	453
Civilian Only: No Direct or CHAMPUS	1.9% (44)	6.6% (154)	6.7% (158)	35.1% (823)	49.7% (1167)	2346
Not Ascertained		100% (1)				1
					Total	5731

Table III.C.9: Satisfaction with Courtesy by People who Make Appointments at Doctor's Office.

User Type	Level of Satisfaction					Total
	Not at all Satisfied	Not too Satisfied	No Observations	Generally Satisfied	Completely Satisfied	
Direct Care Only	5.2% (139)	13.8% (373)	1.5% (41)	45.5% (1225)	34.0% (916)	2694
CHAMPUS Only	6.4% (15)	12.3% (29)	1.3% (3)	36.9% (87)	43.2% (102)	236
Direct Care and CHAMPUS	5.1% (23)	14.8% (67)	2.6% (12)	47.2% (214)	30.2% (137)	453
Civilian Only: No Direct or CHAMPUS	3.0% (71)	12.4% (281)	4.1% (95)	41.3% (965)	39.3% (918)	2338
Not Ascertained				100.0% (1)		1
					Total	5722

Table III.C.10: Satisfaction with Courtesy by People who Make Appointments when Urgent *

User Type	Level of Satisfaction: Not at all Satisfied	Not too Satisfied	No Observations	Satisfied	Total
Direct Care Only	18.9% (96)	37.2% (189)	17.3% (88)	26.6% (135)	508
CHAMPUS Only	29.5% (13)	29.5% (13)	13.6% (6)	27.3% (12)	44
Direct Care and CHAMPUS	19.1% (17)	46.1% (41)	15.7% (14)	19.1% (17)	89
Civilian Only: No Direct or CHAMPUS	12.8% (46)	41.3% (148)	18.2% (65)	27.7% (99)	358
				Total	999

* Of those dissatisfied with Courtesy by People who Make Appointments at Doctor's Office (Table)

Table III.C.11: Satisfaction with Courtesy by Receptionist

User Type	Level of Satisfaction: Not at all Satisfied	Not too Satisfied	No Observation	Generally Satisifed	Completely Satisfied	Total
Direct Care Only	2.9% (78)	10.4% (281)	1.0% (28)	48.9% (1320)	36.7% (991)	2698
CHAMPUS Only	3.0% (7)	5.9% (14)	1.7% (4)	42.5% (100)	47.0% (111)	236
Direct Care and CHAMPUS	3.8% (17)	8.2% (37)	2.2% (10)	51.7% (234)	34.2% (155)	453
Civilian Only: No Direct or CHAMPUS	2.0% (43)	8.3% (194)	3.2% (74)	43.9% (1030)	42.7% (1001)	2347
Not Ascertained				100.0% (1)		1
					Total	5735

Table III.C.12: Satisfaction with Courtesy by Medical Staff

User Type	Level of Satisfaction					Total
	Not at all Satisfied	Not too Satisfied	No Observation	Generally Satisfied	Completely Satisfied	
Direct Care Only	3.3% (90)	12.6% (341)	1.3% (36)	45.6% (1229)	37.1% (1001)	2697
CHAMPUS Only	4.3% (10)	7.3% (17)	3.0% (7)	40.6% (95)	44.9% (105)	234
Direct Care and CHAMPUS	4.4% (20)	13.7% (62)	2.0% (9)	47.2% (214)	32.7% (148)	453
Civilian Only: No Direct or CHAMPUS	3.7% (86)	10.9% (255)	3.9% (92)	42.4% (994)	39.1% (918)	2345
Not Ascertained				100.0% (1)		1
					Total	5730

Table III.C.13: Satisfaction with Doctor's Care

User Type	Level of Satisfaction: Not at all Satisfied	Not too Satisfied	No Observation	Generally Satisfied	Completely Satisfied	Total
Direct Care Only	2.7% (72)	9.8% (264)	.1% (2)	39.3% (1058)	48.2% (1297)	2693
CHAMPUS Only	4.7% (11)	7.6% (18)	0% (0)	38.6% (91)	49.2% (116)	236
Direct Care and CHAMPUS	3.1% (14)	15.3% (69)	.4% (2)	45.1% (204)	36.1% (163)	452
Civilian Only: No Direct or CHAMPUS	3.5% (83)	10.7% (250)	1.2% (29)	34.0% (798)	50.5% (1185)	2345
Not Ascertained		100% (1)				1
					Total	5727

Table III.C.14: Satisfaction with Medical Care Day or Night

User Type	Level of Satisfaction: Not at all Satisfied	Not too Satisfied	No Observation	Generally Satisfied	Completely Satisfied	Total
Direct Care Only	8.7% (234)	17.4% (469)	3.0% (81)	29.6% (796)	41.3% (1112)	2692
CHAMPUS Only	8.1% (19)	20.8% (49)	6.4% (15)	28.4% (67)	36.4% (86)	236
Direct Care and CHAMPUS	11.3% (51)	21.5% (97)	2.9% (13)	33.4% (151)	31.0% (140)	452
Civilian Only: No Direct or CHAMPUS	8.6% (201)	18.5% (433)	6.9% (161)	28.0% (655)	38.0% (890)	2340
Not Ascertained				100% (1)		1
					Total	5721

Table III.C.15: Satisfaction with Seeing Various Doctors.

User Type	Level of Satisfaction					Total
	Not at all Satisfied	Not too Satisfied	No Observation	Generally Satisfied	Completely Satisfied	
Direct Care Only	7.8% (209)	16.6% (446)	1.9% (50)	34.1% (917)	39.8% (1071)	2693
CHAMPUS Only	9.3% (22)	14.4% (34)	3.8% (9)	29.7% (70)	42.8% (101)	236
Direct Care and CHAMPUS	10.6% (48)	22.3% (101)	2.0% (9)	35.8% (162)	29.2% (132)	452
Civilian Only: No Direct or CHAMPUS	6.5% (153)	15.3% (357)	5.6% (132)	31.9% (747)	40.6% (951)	2340
Not Ascertained				100% (1)		1
					Total	5722

Table III.C.16: Satisfaction with Seeing One Doctor for Health Problems.

User Type	Level of Satisfaction: Not at all Satisfied	Not too Satisfied	No Observation	Generally Satisfied	Completely Satisfied	Total
Direct Care Only	19.2% (516)	22.7% (610)	2.5% (68)	26.2% (706)	29.4% (793)	2693
CHAMPUS Only	13.6% (32)	10.6% (25)	3.0% (7)	22.9% (54)	50.0% (118)	236
Direct Care and CHAMPUS	25.1% (113)	19.5% (83)	2.7% (12)	26.8% (121)	25.9% (117)	451
Civilian Only: No Direct or CHAMPUS	14.5% (340)	17.9% (419)	5.4% (127)	25.8% (603)	36.4% (852)	2341
Not Ascertained		100% (1)				1
					Total	5722

Table III.C.17: Satisfaction with Amount of Red Tape

User Type	Level of Satisfaction					Total
	Not at all Satisfied	Not too Satisfied	No Observation	Generally Satisfied	Completely Satisfied	
Direct Care Only	8.9% (240)	15.7% (424)	.6% (16)	43.6% (1177)	31.1% (840)	2697
CHAMPUS Only	13.2% (31)	23.8% (56)	1.7% (40)	37.0% (87)	24.3% (57)	235
Direct Care and CHAMPUS	12.6% (57)	24.8% (112)	.9% (4)	41.6% (188)	20.1% (91)	452
Civilian Only: No Direct or CHAMPUS	10.1% (236)	19.4% (455)	2.5% (59)	37.7% (882)	30.3% (709)	2341
Not Ascertained	100% (1)					1
					Total	5726

Table III.C.18: Satisfaction with Type of Medical Service Covered

User Type	Level of Satisfaction: Not at all Satisfied	Not too Satisfied	No Observation	Generally Satisfied	Completely Satisfied	Total
Direct Care Only	3.8% (103)	12.3% (332)	.3% (8)	41.2% (1112)	42.3% (1142)	2697
CHAMPUS Only	10.7% (25)	19.7% (46)	2.1% (5)	40.6% (95)	26.9% (63)	234
Direct Care and CHAMPUS	5.8% (26)	15.7% (71)	1.1% (5)	52.3% (236)	25.1% (113)	451
Civilian Only: No Direct or CHAMPUS	3.2% (75)	8.4% (197)	2.7% (64)	41.1% (963)	44.6% (1046)	2345
Not Ascertained			100% (1)			1
					Total	5728

The two instances where CHAMPUS users (CHAMPUS only and direct care and CHAMPUS) are more likely to be dissatisfied are on (1) the amount of red tape (Table III.C.17); and (2) type of medical service covered (Table III.C.18). Thus, the problems in processing CHAMPUS claims and in the extent that CHAMPUS covers all types of medical services are problems for CHAMPUS users. Again, however, the satisfaction level does not fall to less than 60% of respondents approving in any group.*

* We hesitate to put an interpretation on the degree to which 55% or 60% or 75% satisfaction levels represents satisfactory for MHSS policy makers. Thus, the numbers are presented as relative outcomes with no intent to imply a positive or negative evaluation for the results. Beyond that, the results of this section, because respondents are evaluating both military and civilian services, are even more difficult to interpret.

d. Aggregate Scale Satisfaction by User Type: Table III.C.19 and III.C.20 present results of the combination of five system organization variables and six human relations variables, respectively. The aggregate variables were created by summing the individual item results for each of the component variables. System organization is composed of (1) Wait on the phone before asking for appointment; (2) Time it takes on the phone to get appointment; (3) Time on phone in an emergency; (4) Medical care day or night; and (5) seeing various doctors. The range of individual scores is 1, completely satisfied, to 5, not at all satisfied. The aggregate range is 5 to 25. Categories were created by dividing the aggregate scores into quartiles. The human relations score was created using the same procedure over six variables, courtesy by doctors, nurses, people who make appointments, people who make appointments if urgent, receptionists, and other medical staff.

In both instances, system organization and human relations aggregate scores, the only difference among user groups is a slight tendency for the "Direct Care and CHAMPUS" group to express greater dissatisfaction than the other groups. The reason for this difference is unclear based on available data.

Analyses paralleling the individual item and aggregate analyses described above were performed on the State subsamples also. The results of these analyses provide no results which contradict what has been described.

Table III.C.19: Satisfaction with General System Organization.*

User Type	Level of Satisfaction				Total
	Generally Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Generally Satisfied	
Direct Care Only	8.7% (232)	28.2% (760)	45.6% (1230)	16.6% (474)	2696
CHAMPUS Only	10.1% (24)	28.9% (68)	43.2% (102)	17.9% (42)	236
Direct Care and CHAMPUS	10.8% (49)	35.1% (159)	40.2% (182)	13.8% (63)	453
Civilian neither Direct or CHAMPUS	8.6% (202)	32.1% (752)	41.8% (983)	17.5% (412)	2349
Not Ascertained			100% (1)		1
				Total	5735

* System Organization is an aggregate of five variables: (1) wait on phone before asking for appointment; (2) time it takes on phone to get appointment; (3) time on phone in an emergency; (4) medical care day or night; (5) seeing various doctors.

Table III.C.20: Satisfaction with Human Relations.*

User Type	Level of Satisfaction: Generally Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Generally Satisfied	Total
Direct Care Only	1.9% (52)	19.5% (527)	50.8% (1370)	27.8% (749)	2698
CHAMPUS Only	4.2% (10)	14.8% (35)	43.6% (103)	37.3% (88)	236
Direct Care and CHAMPUS	2.2% (10)	23.8% (108)	50.8% (230)	23.2% (105)	453
Civilian neither Direct or CHAMPUS	2.3% (53)	17.7% (416)	49.7% (1167)	30.3% (713)	2349
Not Ascertained			100% (1)		1
				Total	5737

* Human Relations is an aggregate of six variables: (1) Courtesy by doctors; (2) Courtesy by nurses; (3) Courtesy by people who make appointments; (4) Courtesy by people who make appointment if urgent; (5) Courtesy by receptionist; and (6) Courtesy by medical staff.

e. Aggregate Scale Satisfaction by Beneficiary Class: The absence of strong relationships between user type and satisfaction suggested the need to examine the question using other possible predictor variables. One which was available on a family unit basis and which seemed as though it could have an impact was beneficiary class. Beneficiary class is, essentially, the relationship between the beneficiary and the service member. Using family unit data it was possible to construct a fourfold classification of beneficiary class: (1) Active duty and dependents; (2) retired military and dependents; (3) survivors of active duty military; and (4) survivors of retired military. This categorization lacks two category breakouts which were possible using individual data, viz., separating dependents of active duty military from the active members and separating dependents of retired military from the retired member. While this increased refinement would have been helpful, it is still possible to develop useful comparisons.*

Results of the aggregate analysis are presented in Tables III.C.21 and III.C.22. Both tables show a slight tendency for Active Duty and Dependents to express dissatisfaction than other groups. As before there is a pronounced tendency for greater dissatisfaction with system organizational factors than with human relations.

* Results in IIID, on dental care, indicate a close relationship between retired military and their dependents in most areas. Similar results may apply here.

Table III.C.21: Beneficiary Class by Satisfaction with System Organization

Beneficiary Class	Satisfaction with System Organization: Generally Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Generally Satisfied	Total
Active Duty and Dependents	10.1% (289)	35.8% (1022)	41.7% (1191)	12.6% (360)	2862
Retired and Dependents	7.8% (174)	25.1% (566)	46.6% (1047)	20.7% (465)	2252
Survivors of Active Duty	6.8% (21)	22.4% (69)	40.6% (125)	30.1% (93)	308
Survivors of Retired	6.2% (14)	25.6% (58)	41.4% (94)	26.8% (61)	227
Not Ascertained					86
				Total	5735

Table III.C.22: Beneficiary Class by Satisfaction with Human Relations Aspects of Medical Service

Beneficiary Class	Satisfaction with Human Relations: Generally Dissatisfied	Somewhat Dissatisfied	Somewhat Satisfied	Generally Satisfied	Total
Active Duty and Dependents	3.2% (93)	26.9% (761)	53.7% (1538)	16.1% (461)	2863
Retired and Dependents	1.2% (27)	11.1% (250)	46.7% (1052)	41.0% (924)	2253
Survivors of Active Duty	(0)	10.0% (31)	46.8% (144)	43.2% (133)	308
Survivors of Retired	.9% (2)	8.4% (19)	38.8% (88)	52.0% (118)	227
Not Ascertained					86
				Total	5737

f. Selected Item Satisfaction by Beneficiary Class: Four of the satisfaction items were not included in either of the aggregate scales. These include satisfaction with doctor's care, one doctor for health problems, amount of red tape, and type of medical service covered. The results of cross-tabulations of each of these factors with beneficiary class are presented in Tables III.C.23, III.C.24, III.C.25, and III.C.26, respectively. The same tendency for the Active Duty and Dependents category to be more dissatisfied that existed on the aggregated items is reflected in these tables, except for satisfaction with Medical Service Covered (Table III.C.26), where the groups are substantially equal. The two most pronounced differences occur on Amount of Red Tape (Table III.C.25) and One Doctor for (All) Health Problems (Table III.C.24). In the former instance a total of 35% of the ACtive Duty and Dependents group expresses some dissatisfaction, while the highest proportion for the other groups is 22.7%. In the latter instance 49.2% of the Active Duty and Dependents group is dissatisfied with having to see more than one doctor, while no more than 26.2% of other groups shows similar dissatisfaction. The Active duty group is also the group which is the largest user of direct care. The revolving doctor system has been a notorious source of dissatisfaction in the military health service system for a long time. These results support the existance of that complaint.

Table III.C.23: Beneficiary Class by Satisfaction with Doctor's Care

Beneficiary Class	Satisfaction with Doctor's Care					Total
	Completely Dissatisfied	Generally Dissatisfied	No Opportunity	Generally Satisfied	Completely Satisfied	
Active Duty and Dependents	4.7% (134)	14.6% (418)	0.5% (15)	44.4% (1269)	35.8% (1023)	2859
Retired and Dependents	1.7% (39)	6.3% (141)	0.6% (14)	30.6% (687)	60.8% (1366)	2247
Survivors of Active Duty	0.6% (2)	6.5% (20)	1.0% (3)	30.2% (93)	61.7% (190)	308
Survivors of Retired	1.3% (3)	6.6 (15)	0.4% (1)	29.5 (67)	62.6% (142)	227
Not Ascertained						86
					Total	5727

Table III.C.24: Beneficiary Class by Satisfaction with One Doctor for Health Problems

Beneficiary Class	Satisfaction with One Doctor					Total
	Completely Dissatisfied	Generally Dissatisfied	No Opportunity	Generally Satisfied	Completely Satisfied	
Active Duty and Dependents	24.5% (699)	24.7% (706)	4.2% (120)	24.5% (699)	22.2% (633)	2857
Retired and Dependents	11.3% (254)	15.9% (358)	3.6% (80)	28.2% (635)	41.0% (921)	2248
Survivors of Active Duty	7.2% (22)	10.8% (33)	1.3% (4)	24.3% (74)	56.4% (172)	305
Survivors of Retired	8.8% (20)	14.1% (32)	2.2% (5)	20.7% (47)	54.2% (123)	227
Not Ascertained						85
					Total	5722

Table III.C.25: Beneficiary Class by Satisfaction with the Amount of Red Tape

Beneficiary Class	Amount of Red Tape					Total
	Completely Dissatisfied	Generally Dissatisfied	No Opportunity	Generally Satisfied	Completely Satisfied	
Active Duty and Dependents	12.1% (347)	22.9% (656)	1.2% (35)	44.3% (1267)	19.4% (555)	2860
Retired and Dependents	8.0% (180)	13.1% (295)	1.5% (34)	38.0% (854)	39.3% (884)	2247
Survivors of Active Duty	8.1% (25)	14.6% (45)	4.2% (13)	29.9% (92)	43.2% (133)	308
Survivors of Retired	3.6% (8)	14.2% (32)	0.4% (1)	36.9% (83)	44.9% (101)	225
Not Ascertained						86
					Total	5726

Table III.C.26 Beneficiary Class by Satisfaction with Type of Medical Service Covered

Beneficiary Class	Satisfaction with Type of Medical Service Covered					Total
	Completely Dissatisfied	Generally Dissatisfied	No Opportunity	Generally Satisfied	Completely Satisfied	
Active Duty and Dependents	3.9% (111)	12.5% (358)	0.9% (27)	47.1% (1349)	35.5% (1017)	2862
Retired and Dependents	4.2% (95)	10.2% (230)	1.6% (35)	37.1% (834)	46.9% (1056)	2250
Survivors of Active Duty	4.3% (13)	10.5% (32)	3.0% (9)	33.6% (102)	48.7% (148)	304
Survivors of Retired	1.8% (4)	9.7% (22)	4.9% (11)	33.2% (75)	50.4% (114)	226
Not Ascertained						86
					Total	5728

g. Summary. The lack of substantial differences in the perception of health care services by different user groups and different beneficiary groups is the major finding of the section. A complementary finding is that most respondents are generally satisfied with the level of medical service they have received. Some of the particular problem areas (relatively) are the use of multiple doctors and the amount of red tape necessary in some systems. These problems are associated with the use of Direct Care systems and the use of CHAMPUS. In general the organization of the health care systems is a somewhat greater cause of dissatisfaction than personal courtesy of medical personnel, but neither problem appears serious. The problem areas identified above suggest a difference based on the use of military and civilian health care services. The direct comparison of the systems is analyzed in the next section of this Chapter.

C.2 Differences Between Civilian and Military Health Care

This section describes the differences between military and civilian health care systems as perceived by individuals who are classified as beneficiaries of (i.e., eligible to use) the military system. The analysis is based on forty questions asked respondents which require a direct comparison of the two systems. The substance of these questions parallels that of the previously discussed medical service evaluation questions except that this list is more detailed and includes items about facilities, costs, alternatives, continuity, and preferential treatment that are not covered previously. The items appear in Table III.C.27. The question format requires that respondents judge either military or civilian service better, or indicate that they are the same in some way. The coded format is a score of 1 (equals civilian better) to 4 (equals military better).

Because of the large number of variables the presentation of findings will be shortened, but without a loss of useful information for the reader. First, responses from the entire sample (of family units) will be described for each of the forty items. This description will include a breakdown of responses into four categories: military medical service is better, civilian medical service is better, neither is better--there is no difference, and both have positive and negative aspects. Once these results have been discussed the cross-tabulation of results of military vs. civilian health care evaluations by user type and beneficiary class will be presented. Tables will be presented only for those items on which a reasonable number of respondents did not see the military and civilian systems as providing equal service. Because of the prevalence of the "No difference" response a cut-off point of 90% was established, i.e., there will be a user type by

Table III.C.27

Summary of Military vs. Civilian Health Care Evaluations

	Civilian Better	Neither-No Difference	Both - Positive or Negative	Military Better
MILITARY VERSUS CIVILIAN:				
Dental Care	10.1%	88.1%	.5%	1.3%
Emergency Care	4.9	78.7	.6	15.5
Specialists	4.1	85.0	.6	9.4
Pharmacy Service	.7	95.1	.1	4.1
Preventive Care	2.8	93.4	.2	3.6
Long-Term Care	.2	99.6	-	.3
Comprehensiveness	1.1	93.2	.1	5.6
Services	1.0	98.2	.0	.8
Physicians	13.8	54.9	4.8	26.4
Corpsmen	4.5	93.8	.1	1.7
Nurses	.7	97.7	.1	1.5
Dentists	1.0	97.5	-	1.5
Personnel	.6	99.2	-	.2
Staff	.3	99.1	-	.6
Hospital Plant	5.2	84.1	.7	10.0
Ambiance	4.7	93.0	.2	2.1
Togetherness	.2	94.3	-	5.5
Doctor's Concern	20.1	69.2	2.2	8.5
Staff Concern	5.2	92.7	.2	1.8
Doctor's Courtesy	2.0	94.5	.2	3.3
Staff Courtesy	2.0	96.3	.1	1.6
Inpatient and Provider Communication	2.2	95.3	.2	2.3
Proximity to Home	17.8	66.7	1.8	13.8
Appointment East	35.1	56.1	2.6	6.2
Choice of Doctors	3.5	96.2	.1	.2
Waiting Time in Office	25.0	70.2	1.2	3.7
Other Waiting Time	3.7	95.3	.1	.9
Out-of-Town Care	.3	98.7	-	1.0
Champus Alternative	2.1	93.9	.2	3.8
Red Tape	3.6	94.0	.1	2.3
System Communication	.8	99.0	-	.2
Medical Records	2.8	95.1	.1	1.9
Dependent Care	2.1	96.1	.1	1.8
System Organization	3.0	96.1	.1	.9
Cost	.5	26.1	.6	72.9
Sense of Security	3.1	94.5	.1	2.3
Continuity of Care	16.0	81.6	.6	1.8
Patient's General Attitude Toward	.1	99.3	-	.7
Screening Process	3.6	96.1	-	.3
Preferential Treatment	8.7	89.8	.3	1.2

N=5694

comparitive evaluation cross-tabulation for each item on which less than 90% of the respondents thought service was the same. This means that individual results will be presented for 12 of the 40 items on the list for both user type and beneficiary class.*

Following presentation of these results a brief description of the special case of CHAMPUS evaluation will be provided. This analysis is presented because of the special insterest in this program and its evaluation which is currently being expressed by the Department of Defense. It occuries a special position in the military vs. civilian health care system and because of its relatively low usage has become a special target in attempts to improve the MHSS.

Before beginning these descriptions the special case of State differences must be described. Each analysis described here was also done for the California and Texas samples independently. The results of these analyses show little or no difference between the samples on virtually all items where the N was large enough for evaluation. Because of the size of the Texas sample and the lack of variance in responses to comparison questions, there were usually too few cases to evaluate in any form.

* Tables were constructed with 33 of the 40 items aggregated into five substantive scales. These tables reflect the low variance on items which go into each, but also provide insight into the extent to which individuals rated all scale items the same way. For readers interested in this distribution the cross-tabular results of scale scores by user type for the five scales is presented in Appendix A.

a. Military vs. Civilian Health Care Evaluation by User Type: Table III.C.27 shows the distribution of comparisons for each of the forty items on the list. It is evident from an inspection of this table that relatively few items are perceived as different (better in civilian or military systems). Because of the absence of differences a rather liberal cut-off point for detailed examination has been established, viz., 90%. There are 12 items upon which 90% of the respondents were not in agreement as to their equality. They are: (1) dental care; (2) emergency care; (3) specialists; (4) physician quality; (5) hospital plant quality; (6) doctor's concern with patients; (7) proximity to home; (8) ease of obtaining appointments; (9) waiting time in the office; (10) cost; (11) continuity of care; and (12) preferential treatment. The proportion who see no difference ranges from 89.8% (preferential treatment) to 26.1% (cost). It is interesting to note some of the items on which no difference is seen (even by those who do not use the military system). These include: nurses (97.7% the same), dentists (97.5%), ambiance (93%), inpatient and provider communication (95.3%), choice of doctors (96.2%), red tape (94%), and patients general attitude toward (99.1%). All of these represent areas where it may have been expected that the civilian system would be perceived as being better.

The 12 items upon which there is some difference may be divided into three groups: (1) those dealing with the quality of medical care (physicians, doctor's concern, continuity of care, emergency care, civilian specialists and hospital plant); (2) those concerning convenience (waiting time in office, appointment ease and proximity to home); and (3) a miscellaneous group (including preferential treatment, dental care, and cost).

An overall view of these results reveals that the military health service is perceived as better in three instances: physicians (Table III.C.28), emergency care (Table III.C.31), and cost (Table III.C.29). The results are mixed (dependent on user type) in two cases, civilian specialists (Table III.C.32) and hospital plant (Table III.C.33). In the remaining six tables civilian care is perceived as better than military care by all user groups with one exception. These results will be discussed individually.

Physicians: Somewhat surprisingly, all user groups see military physicians as better by a margin which averages about 10% (Table III.C.28). Slightly better than half of the respondents see them as the same.

Doctor's Concern: For all user types from 10% to 20% more see the doctor's concern as greater among civilian doctors (Table III.C.29). Slightly more than 2/3 see civilian and military doctors as the same.

Continuity of Care: In an item probably related to changing doctors and rotating assignments, virtually all who see a difference in military and civilian care consider the civilian service to offer greater continuity (Table III.C.30).

Emergency Care: While approximately 80% see no difference, among those who do see a difference the majority favor the military as providing better emergency care, usually by a margin of about 3 to 1 (Table III.C.31).

Civilian Specialists: Eight-five point eight percent see the military and civilian the same on this dimension and of those who find differences there is a slight tendency toward the military, although one group, those who use both direct and CHAMPUS, finds civilian specialists better (Table III.C.32). Perhaps they have more comparative experience.

Table III.C.28: Family User Type by Comparison of Military and Civilian Physicians

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	13.4% (359)	52.9% (1422)	5.4% (144)	28.4% (763)	2688
CHAMPUS only	14.9% (35)	60.0% (141)	3.4% (8)	21.7% (51)	235
Both Direct and CHAMPUS	14.6% (66)	52.0% (235)	7.3% (33)	26.1% (118)	452
Civilian Only: No Direct or CHAMPUS	14.2% (328)	57.2% (1327)	3.9% (91)	24.7% (572)	2318
Unknown					1
				Total	5694

Table III.C.29: Family User Type by Comparision of Military and Civilian Doctor's Concern

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	[illegible] (134)	85.4 (1839)	2.6 (69)	9.7 (261)	2688
CHAMPUS Only	24.7 (58)	70.2 (165)	0.9 (2)	4.3 (10)	235
[illegible]	[illegible] (139)	86.6 (391)	3.1 (14)	7.3 (33)	452
[illegible]	[illegible] (442)	74.6 (1736)	1.6 (38)	7.9 (182)	2318
[illegible]					1
				Total	5694

Table III.C.30: Family User Type by Comparison of Military and Civilian Continuity of Care

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct only	16.5% (432)	79.9% (2149)	1.0% (26)	2.3% (61)	2688
CHAMPUS only	20.9% (49)	79.1% (186)			235
Both Direct and CHAMPUS	21.2% (96)	77.2% (349)	0.4% (2)	1.1% (5)	452
[illegible]	13.7% (312)	84.6% (1961)	0.4% (9)	1.6% (36)	2318
Unknown					1
				Total	5694

Hospital Plant: Again 84% see the two as the same and all but the CHAMPUS only group see the military as somewhat better (Direct Only users as much better) in providing hospital facilities.

Waiting Time in Office and Appointment Ease: Both of these items are weighted heavily in favor of civilian services in those cases were respondents hold an opinion (about 1/3)(Tables III.C.34 and III.C.35). There are no differences among user types.

Proximity to Home: About 1/3 of the respondents see a difference. Those who use direct only find military better, while those in the other user type groups favor civilian (Table III.C.36). (It would be interesting to determine the actual distances from comparable facilities for each of the groups. Unfortunately, these data are not available in the present survey.)

Preferential Treatment: While just over half perceive a difference in preferences given to different groups in health care, those who do, feel that such treatment is far more likely in the military than in civilian health care service (Table III.C.37). [illegible], the MTF experience is still very much in evidence. It [illegible] that [illegible] see it that way.

Dental Care: [illegible], not nearly [illegible] a difference, but the margin widely favors [illegible] (Table III.C.38).

Cost: Finally, [illegible] direct care since the cost compari[illegible] (Table III.C.39). It is surprising that so many [illegible] this question is perhaps a measure of the proportion of respondents who were ignorant of medical costs or who were not really paying attention to the question.)

Table III.C.31: Family User Type by Comparison of Military and Civilian Emergency Care

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	5.2% (140)	76.3% (2052)	0.8% (22)	17.6% (474)	2688
CHAMPUS Only	4.3% (10)	84.3% (198)	0.4% (1)	11.1% (26)	235
Both Direct and CHAMPUS	5.3% (24)	72.8% (329)	2.2% (10)	19.7% (89)	452
Civilian Only: No Direct or CHAMPUS	5.6% (107)	82.1% (1902)	0.6% (15)	12.7% (294)	2318
Unknown					1
				Total	5694

Table III.C.32: Family User Type by Comparison of Military and Civilian Specialists

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	4.7% (126)	82.9% (2228)	0.8% (21)	11.6% (313)	2688
CHAMPUS Only	3.4 (8)	88.9% (209)		7.7% (18)	235
Both Direct and CHAMPUS	9.1% (41)	82.7% (374)	0.7% (3)	7.5 (34)	452
Civilian Only: No Direct or CHAMPUS	2.4% (56)	89.4% (2072)	0.4 (9)	7.8% (181)	2318
Unknown					1
				Total	5694

Table III.C.33: Family User Type by Comparison of Military and Civilian Hospital Plant

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	5.6% (150)	80.8% (2173)	0.8% (22)	12.8% (343)	2688
CHAMPUS Only	6.8% (16)	87.2 (205)	0.4% (1)	5.5% (13)	235
Both Direct and CHAMPUS	5.5% (25)	85.8% (388)	1.1% (5)	7.5% (34)	452
Civilian Only: No Direct or CHAMPUS	4.6% (147)	87.2% (2021)	0.6% (13)	7.6% (177)	2318
Unknown					1
				Total	5694

Table III.C.34: Family User Type by Comparison of Military and Civilian Waiting Time in Office

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	26.8% (720)	67.4% (1811)	1.5% (41)	4.3% (116)	2688
CHAMPUS Only	27.2% (64)	70.2% (165)	0.0% (0)	2.6% (6)	235
Both Direct and CHAMPUS	31.9% (144)	63.3% (286)	1.1% (5)	3.8% (17)	452
Civilian Only: No Direct or CHAMPUS	21.3% (493)	74.8% (1735)	0.9% (21)	3.0% (69)	2318
Unknown					1
				Total	5694

TAble III.C.35: Family User Type by Comparison of Military and Civilian Appointment Ease

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	37.0% (994)	52.6% (1414)	3.1% (82)	7.4% (198)	2688
CHAMPUS Only	40.9% (96)	54.0% (127)	2.1% (5)	3.0% (7)	235
Both Direct and CHAMPUS	45.1% (204)	45.4% (205)	2.9% (13)	6.6% (30)	452
Civilian Only: No Direct or CHAMPUS	30.4% (705)	62.3% (1445)	2.1% (48)	5.2% (120)	2318
Unknown					1
				Total	5694

Table III.C.36: Family User Type by Comparison of Military and Civilian Proximity to Home

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	14.5% (390)	66.5% (1787)	1.9% (50)	17.2% (461)	2688
CHAMPUS Only	37.4% (88)	51.9% (122)	2.6% (6)	8.1% (19)	235
Both Direct and CHAMPUS	19.1% (88)	64.8% (293)	2.9% (13)	12.8% (58)	452
Civilian Might Do Direct or CHAMPUS	19.1% (449)	68.7% (1593)	1.3% (31)	10.6% (245)	2318
Unknown					1
				Total	5694

Table III.C.37: Family User Type by Comparison of Military and Civilian Preferential Treatment

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	8.5% (229)	89.8% (2414)	0.2% (5)	1.5% (40)	2688
CHAMPUS Only	16.6% (39)	83.0% (195)		0.4% (1)	235
Both Direct and CHAMPUS	9.7% (44)	88.7% (401)	0.4% (2)	1.1% (5)	452
Civilian Only: No Direct or CHAMPUS	8.0% (186)	90.8% (2104)	0.3% (8)	0.9% (20)	2318
Unknown					1
				Total	5694

Table III.C.38: Family User Type by Comparison of Military and Civilian Dental Care

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct Only	12.5% (335)	85.8% (2305)	0.7% (20)	1.0% (28)	2688
CHAMPUS Only	9.8% (23)	88.5% (208)	0.4% (1)	1.3% (3)	235
Both Direct and CHAMPUS	13.9% (63)	83.6% (378)	0.4% (2)	2.0% (9)	452
Civilian Only: No Direct or CHAMPUS	6.7% (155)	91.6% (2123)	0.2% (4)	1.6% (36)	2318
Unknown					1
				Total	5694

Table III.C.39: Family User Type by Comparison of Military and Civilian Cost

User Type	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Direct only	0.2% (6)	21.7% (584)	0.6% (17)	77.4% (2081)	2688
CHAMPUS only	0.9% (2)	34.5% (81)	0.4% (1)	64.3% (151)	235
Both Direct and CHAMPUS	0.4% (2)	23.2% (105)	1.1% (5)	75.2% (340)	452
Civilian Only: No Direct or CHAMPUS	0.7% (16)	30.8% (713)	0.4% (10)	68.1% (1579)	2318
Unknown					1
				Total	5694

b. Military vs. Civilian Health Care by Beneficiary Class: Tables III.C.40 through III.C.51 present the same analysis as subsection a. except that beneficiary class is substituted for user type in the cross-tabulations. The results presented in these tables provide some interesting contrasts to the previous findings. In this subsection results on each of the twelve items will be compared to results among user types. Significant differences occur in three areas.

Physicians: While the general pattern among user types is to view military physicians as better, among beneficiary classes the trend is reversed, surprisingly, by the Active Duty and Dependents class, who feel by 3 percentage points that civilian doctors are better (Table III.C.40). Perhaps the most interesting question is still unanswered, i.e., why does the group most likely to use the military doctor have even a slight preference for civilian doctors, while those more likely to use civilian doctors feel just the opposite?

Doctor's Concern: As was the outcome among user types, all classes of beneficiaries favor civilian doctors in terms of concern for their patients (Table III.C.41).

Continuity of Care: Again, all groups favor civilian medical service among those who have a preference (Table III.C.42).

Emergency Care: All beneficiary groups favor the military as providing better emergency service by a substantial margin (Table III.C.43).

Specialists: Contrary to user types, where one group favored the civilian system, all beneficiary classes feel the military system provides better specialists among those who have an opinion (Table III.C.44).

Hospital Plant: The general preference favors the military, although among Active Duty and Dependents the preferences are divided evenly (Table III.C.45).

Table III.C.40: Beneficiary Class by Comparison of Military and Civilian Physicians

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Active Duty and Dependents	20.8% (594)	56.0% (1598)	6.0% (172)	17.2% (490)	2854
Retired Military and Dependents	7.4% (166)	53.2% (1193)	3.9% (87)	35.5% (797)	2243
Survivors of Active Duty	4.1% (12)	64.4% (188)	2.1% (6)	29.5% (86)	292
Survivors of Retired Military	6.2% (14)	40.0% (90)	4.4% (10)	49.3% (111)	225
Unknown					80
				Total	5694

Table III.C.41: Beneficiary Class by Comparison of Military and Civilian Doctor's Concern

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Active Duty and Dependents	29.3% (837)	61.8% (1765)	2.7% (77)	6.1% (175)	2854
Retired Military and Dependents	11.3% (253)	76.5% (1716)	1.5% (34)	10.7% (240)	2243
Survivors of Active Duty	9.2% (27)	80.5% (235)	1.4% (4)	8.9% (26)	292
Survivors of Retired Military	8.4% (19)	79.2 (178)	3.6% (8)	17.8% (40)	225
Unknown					8
				Total	5622

Table III.C.42: Beneficiary Class by Comparison of Military and Civilian Continuity of Care

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
A[illegible] Duty and [illegible]	15.6% ([illegible])	81.8% (23[illegible])	0.8% (23)	1.8% (59)	[illegible]852
[illegible] Military [illegible]	16.2 (363)	81.8 (183[illegible])	0.4 (10)	1.6 (36)	2243
[illegible] of [illegible]	11.3 (33)	86.0 (251)	0.7 (2)	2.1 (6)	292
[illegible] of [illegible] Military	[illegible] ([illegible])	72.9 ([illegible])	0.9 (2)	3.6 (8)	225
Unknown	17.5 (14)	80.0 (64)	0.0 0	2.5 (2)	80
				Total	369[illegible]

Table III.C.43: Beneficiary Class by Comparison of Military and Civilian Veterans' Pro-

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Active Duty and [illegible]	9.[illegible] (177)	74.8 (2136)	1.3 (38)	17.6 (503)	[illegible]
Retired Military [illegible]	3.9 (47)	81.2 (1022)	[illegible] (50)	14.4 (182)	1253
Survivors of [illegible]	2.[illegible] (7)	88.0 (252)	0.0	9.8 (28)	287
Survivors of Retired Military	4.[illegible] (3)	84.4 (590)	0.3	11.0 (78)	699
Unknown	1.3 (1)	96.3 (77)	0.0	2.5 (2)	80
				Total	9644

Table III.C.44: Beneficiary Class by Comparison of Military and Civilian Specialists

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Active Duty and Retirement	5.3% (55)	85.5% (2455)	0.5% (25)	8.7% (239)	2874
Dependents of Military Personnel	3.0 (68)	85.9 (1926)	0.4 (8)	10.7 (241)	2243
Civilian Employees of Military	2.4 (7)	87.0 (254)	0.3 (1)	10.3 (30)	292
Civilian Employees of Private Military	1.8 (5)	85.8 (243)	0.0	12.4 (28)	225
Unknown					80
				Total	5694

Table III.C.45: Beneficiary Class by Comparison of Military and Civilian Hospital Plant

Beneficiary Class	Civilian Letter	Neither Better	Both Positive and Negative	Military Letter	Total
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
				Total	[illegible]

Waiting Time to Office and Appointment Time: On these convenience items, the civilian system is an easy winner in all categories (Tables III.C.46 and III.C.47).

Proximity to Home: Active duty and dependents feel that military services provide an advantage in this convenience item. All other groups feel the civilian medical services are more convenient (Table III.C.48). This is particularly true for older groups, retired and survivors of retired, who apparently have strong feelings about physical convenience.

Preferential Treatment: Again, all groups have a significant minority that feels the military medical service gives them preferential treatment (Table III.C.49).

Dental Care: As above, dental care is felt to be better in civilian life than in the military by the less than 1% who have a preference (Table III.C.50).

Cost: Cost is again overwhelmingly better in the military, but an interesting break-out occurs among different beneficiary classes. Active Duty survivors, who are last likely to use the direct care facilities and probably most likely to use competitors to CHAMPUS, are more than 6 likely to see no difference between the systems. This is by far the largest single proportion to hold this attitude. (Table III.C.51)

Table III.C.46: Beneficiary Class by Comparison of Military and Civilian Waiting Time in File

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Neutral	Military Better	Total
Retired, Navy and Marines	31.5% (648)	63.7% (1309)	1.5% (31)	3.3% (68)	2056
Other Military Beneficiaries	19.7 (332)	75.4 (1691)	0.8 (18)	4.1 (92)	2243
Survivors of Retired Navy	11.6 (28)	86.0 (251)	0.7 (2)	1.7 (5)	292
Survivors of Retired Military	15.6 (35)	78.4 (172)	1.3 (3)	6.7 (15)	225
Unknown					86
				Total	5694

Table III.C.47: Beneficiary Class by Comparison of Military and Civilian Appointment Ease

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Active Duty and Dependents	37.2% (1062)	52.5% (1498)	3.3% (94)	7.0% (200)	2854
Retired Military and Dependents	36.3 (815)	56.3 (1262)	2.1 (47)	5.3 (119)	2243
Survivors of Active Duty	17.1 (50)	77.1 (225)	0.7 (2)	5.1 (15)	292
Survivors of Retired Military	25.8 (58)	64.4 (145)	2.2 (5)	7.6 (17)	225
Unknown					80
				Total	2694

Table III.C.48: Beneficiary Class by Comparison of Military and Civilian Proximity to Home

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Active Duty and Dependents	5.4% (155)	75.6% (2158)	1.5% (42)	17.5% (499)	2854
Retired Military and Dependents	30.4% (681)	54.1% (1209)	2.4 (53)	11.1% (250)	2243
Survivors of Active Duty	27.1% (79)	69.5% (203)	0.7% (2)	2.7% (8)	292
Survivors of Retired Military	36.8% (82)	53.3% (120)	0.9% (2)	9.3% (21)	225
Unknown					80
				Total	5694

Table III.C.49: Beneficiary Class by Comparison of Military and Civilian Preferential Treatment

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Active Duty and Dependents	6.9% (198)	91.2% (2603)	0.4% (11)	1.5% (42)	2854
Retired Military and Dependents	12.3 (275)	86.6 (1942)	0.1 (3)	1.0 (23)	2243
Survivors of Active Duty	3.1 (9)	96.6 (282)	0.3 (1)	0.0	292
Survivors of Retired Military	5.8 (13)	93.8 (211)	0.0	0.4 (1)	225
Unknown					80
				Total	5694

Table III.C.50: Beneficiary Class by Comparison of Military and Civilian Dental Care

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Active Duty and Dependents	11.2% (321)	86.7% (2474)	0.7% (21)	1.3% (38) 28	2854
Retired Military and Dependents	10.5 (235)	87.8 (1969)	0.3 (6)	1.5 (33)	2243
Survivors of Active Duty	2.4 (7)	96.9 (283)	0.0	0.7 (2)	292
Survivors of Retired Military	5.3 (12)	93.3 (210)	0.0	1.3 (3)	225
Unknown					80
				Total	5694

Table III.C.51: Beneficiary Class by Comparison of Military and Civilian Cost

Beneficiary Class	Civilian Better	Neither Better	Both Positive and Negative	Military Better	Total
Active Duty and Dependents	0.2% (7)	14.6% (416)	0.8% (23)	84.4% (2408)	2854
Retired Military and Dependents	0.5% (12)	35.1% (788)	0.4% (8)	64.0% (1435)	2243
Survivors of Active Duty	0.3% (1)	53.1% (155)	0.3% (1)	46.2% (135)	292
Survivors of Retired Military	2.7% (6)	36.0% (81)	0.4% (1)	60.9% (137)	225
Unknown					80
				Total	5694

C. CHAMPUS Evaluations

CHAMPUS is the military health assistance program which provides for outside care to eligible beneficiaries who, for one reason or another do not use the direct care system. As previous figures have demonstrated, most of those who are eligible and who are not using direct care, are also not using CHAMPUS to support their medical care needs. In essence, these people are making a direct comparison between the military supported system and some civilian system, possibly even paying themselves, and are choosing the civilian system. The survey data allow an analysis of this question in greater depth than is true of other issues because there are several questions which focus on this particular issue. This section provides an opportunity to examine some of the reasons for avoiding the CHAMPUS system and may provide some indication of how the system might be improved so that it might gain a wider following (if that is the goal).

Two questions are of particular interest. One is an open-ended question which asks nonusers why they do not use CHAMPUS. The second is a more structured question which poses specific target areas in an effort to determine negative aspects of CHAMPUS. The results of these questions will be discussed first. Subsequent analyses will investigate three specific service problems, services covered, red tape, and time before reimbursement as a function of knowledge of the system. Knowledge is determined by self-report items which divide respondents into three groups: (1) those who have used CHAMPUS; (2) those who claim to know about CHAMPUS; and (3) those who say they have simply heard about CHAMPUS.

Table III.C.1 presents results of the question on why people did not use CHAMPUS. The most cited reason is the "Use of Direct Care" (16.1%) and the second and third most cited reasons are "Good Health" (8.2%) and "Haven't

Table III.C.52: Why People did Not Use CHAMPUS

Reasons	Proportion of Those Who Mentioned in Responses to Question on why did not use CHAMPUS
Good health	8.2%
Care is Limited	.9%
Use Military Care	16.1%
Other Coverage	3.8%
Haven't Needed it	7.5%
Other Reasons	0.0%
Incomplete Coverage	1.2%
Red Tape	2.0%
Short Comings	.3%
Cost	2.8%
Ineligibility	2.6%
Didn't Know of Eligibility	.8%
Lack of Knowledge	6.2%
Other Reasons (Specific)	1.0%

N = 3095 valid cases

needed it" (7.5%). Thus, almost 1 in 3 of the respondents either had no need or used the alternative direct care system. On the other hand those who listed faults for failing to use CHAMPUS constitute only a small proportion: incomplete coverage 1.2%, red tape 2%, shortcomings .3%, cost 2.8%, and limited care .9%. A total of 7% cited lack of knowledge. Almost half did not respond to the question. One conclusion which might be drawn from this table is that most nonusers do not reject the CHAMPUS system, but simply ignore it.

Questions were also asked about specific aspects of CHAMPUS. The results of these questions are presented in Table III.C.53. As in the previous table the major problem is a lack of response. However, if we assume that respondents are representative of the total sample, or at least of interested persons, some useful findings are forthcoming. First, the most negatively perceived aspect of CHAMPUS is red tape, or paperwork (86.1% of respondents view this aspect as negative). Close seconds are time before reimbursement and acceptability to doctors (75% each). The former is another form of red tape which further supports the idea that perceived inefficiency is the major reason for negative evaluations. The lack of acceptance by civilian doctors is a potentially serious problem with widespread repercussions. If this figure is true, and not just the invention of uninformed respondents, the entire CHAMPUS system is open to challenge as not being responsive to customer needs. At the very least this situation requires serious follow-up investigation. The two other most negative aspects of CHAMPUS, as cited in this question, are services covered (59.6% negative) and premium cost (33.3% negative). While these figures are interesting they become truly informative only when associated with other potential intervening variables. For example, if those who feel services

Table III.C.35:Positive and Negative Statements on CHAMPUS

Statements	Positive %	Negative %	Total N	Same - No Statement Neither, Missing N
Premium Cost	66.7	33.3	2155	3591
Services Covered	50.4	49.6	1087	4659
Changes in Benefits		Too small N*		
Limitations on Eligibility		Too small N*		
Acceptability to Doctors	25.0	75.0	581	5165
Incomplete Reimbursement		Too small N*		
Preference for Civilian Doctors	86.8	13.2	721	5025
Preference for Civilian Facilities	97.9	2.1	1327	4419
Paperwork or Red Tape	13.9	86.1	1013	4733
Slow Get to Reimbursement	25.0	75.0	603	5143
Advantage When Out-of Town		Too small N*		
System Organization		Too small N*		
Freedom of Choice of CHAMPUS Providers	99.1	.9	980	4766
Other Advantages		Too small N*		
Discrimination Treatment of CHAMPUS Patients		Too small N*		
Prefer Military Doctors		Too small N*		

* If % reporting is less than 5% (10 of sampled responses are not included.

are inadequate have alternative civilian coverage, then the statements are damning. If they do not have such coverage, but are using the direct care alternative, the damage is less severe unless the objective of CHAMPUS is to reduce dependence on direct care. Similarly, if respondents who complain of costs are being provided cheaper civilian policies, then CHAMPUS is not doing its job for civilian beneficiaries. If they are using direct care little can be done to reduce the problem.

Tables III.C.54 through III.C.56 provide an examination of three of the CHAMPUS problem areas in terms of one possible mediating variable, knowledge of the system. Knowledge ranges from usage through recognition of the name. An interesting pattern emerges. In two areas, which we previously labeled efficiency, CHAMPUS' reputation precedes it and those with less knowledge are generally more negative (Tables III.C.55 and III.C.56). In the area of services covered the opposite is true and there is a much more favorable climate of opinion in general (Table III.C.54). While it is difficult to generalize from such slim data it might be argued that CHAMPUS needs a good PR campaign with regard to efficiency and a serious evaluation on the dimension of coverage.

Table III.C.54: Positive and Negative Statements on CHAMPUS by Knowledge of CHAMPUS: Services Covered

	Positive	Negative	Total
Used CHAMPUS	47.4% (299)	52.6% (332)	631
Know of CHAMPUS	50.5% (161)	49.5% (158)	319
Heard of CHAMPUS	64.0% (87)	36.0% (49)	136
Not Ascertained			1
		Total	1087

Table III.C.55:Positive and Negative Statement on CHAMPUS by Knowledge of CHAMPUS: Red Tape

	Positive	Negative	Total
Used CHAMPUS	17.5% (116)	82.5% (546)	662
Knew of CHAMPUS	6.1% (14)	93.9% (217)	231
Heard of CHAMPUS	8.4% (10)	91.6% (109)	119
Not Ascertained			1
		Total	1013

Table III.C.5a: Positive and Negative Statements on CHAMPUS by Knowledge of CHAMPUS: Time Before Reimbursement.

	Positive	Negative	Total
Used CHAMPUS	30.5% (137)	69.5% (312)	449
Heard of CHAMPUS	9.6% (10)	90.4% (94)	104
Heard of CHAMPUS	6.1% (3)	93.9% (46)	49
Not Ascertained			1
		Total	603

d. Summary: In summary, section C.3 provides an overall view of comparisons of a number of aspects of military or civilian medical services. While 28 of 40 items show the military and civilian services to be equally perceived and four more show the military to be somewhat more highly perceived (these were cost, physicians, emergency care and, to a degree, facilities), there are still eight areas in which they are poorly perceived. Of particular importance here is the question of convenience items which have traditionally been the nemesis of the military system. Also of importance are a perceived lack of concern by doctors and discontinuity of care which may be more the fault of the military rotation system than of the MHSS itself.

While most of the perceptions of the civilian vs. military health care systems are relatively constant over user type and beneficiary class, one exception is noteworthy. It is that the Active Duty and Dependent beneficiary class is more likely to endorse the quality of civilian physicians than military physicians. This is contrary to a trend for all other identified groups to favor military physicians. This group exhibits the same anti-military propensity on the question of doctor's concern, again representing a slight trend reversal. These specific instances signal a more general trend among the Active Duty and Dependent respondents to be at least as negative and sometimes more negative toward military health care services than any other group. This pattern could be the result of a methodological problem, to wit, having to combine Active Duty personnel with their dependents in summarizing the answers. It may be dependents who are exhibiting more anti-military attitudes. Such a situation could have a substantial negative impact on retention. Unfortunately there was no way to separate these groups in the available data.

Another interesting outcome of this analysis is the failure of user type and, to a great extent, beneficiary class, to distinguish on the selection of military vs. civilian alternatives. Again, this could be a function of data limitations, but on the basis of what is available a further investigation into this issue is strongly indicated.

The brief examination of attitudes toward CHAMPUS revealed that a number of factors play a role in the rejection of that system, but that those of chief concern are a perceived inefficiency in using the system, lack of outside doctor acceptance and limitations in coverage. Of the three, lack of outside doctor acceptance is perhaps the most serious if it is true. Coverage limitations, if fair comparisons are being made, is a problem which is currently being addressed in proposed research. Red tape is an unending battle which is quite possibly insurmountable.

C.3 The Acceptance of Physician Extenders

An increasingly important aspect of medical service is the use of physician extenders to perform functions previously performed only by doctors. However, there are still many unanswered questions about what kinds of functions are acceptable to medical care users. The MHCS survey asked a set of seven questions about the use of such extenders. The following subsection presents an analyses of the results of those questions. This analysis was divided into three parts: (a) a basic description of the extent to which each of the seven functions was acceptable to survey respondents; (b) an attempt to develop a Guttman scale from the seven items; and (c) an attempt to determine if the primary mediating variables used in previous analyses in this study (user type and beneficiary class) are able to increase our ability to predict acceptance of the extender functions. A report on these analyses follows.

a. Responses to Physician Extender Questions: Table III.C.57 presents results of the seven basic questions on the use of physician extenders for increasingly technical tasks. The most acceptable of these tasks was allowing an assistant to do preliminary questioning, medical history, blood pressure, etc. Ninety-five point seven percent (95.7%) were amenable to that idea. The second most acceptable task was allowing an assistant to stitch minor wounds (83.5% positive). Third most acceptable was allowing follow-up care after a physician had diagnosed the ailment and prescribed treatment (79.7%). Just below two-thirds of the respondents would allow doctors' assistants to give pre- or post-natal care (64.6%) and prescribe for minor illnesses (63.4%). However, a large gap exists between the

Table III.C.57: Responses to Physician Extender Questions

Questions	Response: Yes	No	Undecided	Total
1. Let Assistant do Preliminary	95.7% (5494)	4.0% (230)	.3% (17)	5741
2. Let Assistant Decide if see Doctor	36.7% (2105)	61.9% (3554)	1.4% (79)	5738
3. Let Assistant do Follow-Up	79.7% (4573)	19.0% (1090)	1.3% (77)	5740
4. Let Assistant do Pre/Post Natal Care	64.6% (3695)	30.9% (1771)	4.5% (257)	5723
5. Let Assistant Prescribe For Minor Illnesses	63.4% (3641)	35.6% (2045)	.9% (54)	5740
6. Let Assistant Stitch Minor Wounds	83.5% (4791)	16.0% (917)	.5% (31)	5739
7. Let Assistant Give Most Medical Care	36.8% (2111)	61.0% (3500)	2.2% (124)	5735

final two items--"let assistant give most medical care" (36.8% approval) and "let assistant decide if the respondent shall see a doctor" (36.7% approval). Using the table as a guide, the level of acceptability of assistant care is 1, 6, 3, 4, 5, 7, 2. In all cases there is a very low number of undecided respondents.

b. Guttman Scaling: In order to determine if there was a real unidimensional hierarchical scale in the seven physician extender items, the results were submitted to a Guttman scale analysis. Two approaches were taken in this analysis. First, the items were entered as they were ordered in the questionnaire, in what was presumed to be the survey author's perception of increasing difficulty. Second, the program was allowed to select the order of items that best fit the Guttman model.* Items were dichotomized for this analysis. Undecided respondents were grouped with negative respondents. The results of these two scaling runs were:

1. Using the original ordering:

Coefficient of reproducibility = .7387

Usual acceptance level = .90 or higher

Coefficient of scalability = .0253

Usual acceptance level = .6 or higher

*Guttman scales have two basic requirements, unidimensionality and cumulativeness. Unidimensionality means "that component items must all measure movement toward or away from a single underlying object." Cumulative implies that the component items can be ordered by degree of difficulty, and that respondents who reply positively to a difficult item will always respond positively to less difficult items and vice versa." See Nie, Norman, et al., Statistical Package for the Social Sciences (2nd Ed.), New York: McGraw-Hill, 1975, p. 529.

2. Allowing reordering to maximize CR and CS:

Coefficient of reproducibility = .8517

Coefficient of scalability = .4453

The order of items on this run turned out to be (from most to least difficult) 2, 7, 5, 4, 3, 6, 1.

Thus, the most difficult item was that of letting the assistant determine if the respondent was to see a doctor. On the other hand, the stitching of minor wounds turned out to be a relatively easy item. Possible further analyses might be conducted by eliminating items with large numbers of errors and then attempting to scale the shorter list. Barring this reanalysis, the Guttman scale must be rejected for this set of items.*

c. Physician Extender Acceptance by User Type and Beneficiary Class: The final step in our analyses of physician extender questions was to determine if they are related to either user type or beneficiary class. This determination was made by preparing cross-tabulation for each of the extender questions by user type and beneficiary class. The results are presented below.

User type was found not to be related to any of the physician extender questions, i.e., there were no significant differences among user types on any of the extender questions. This negative finding suggests that three of civilian vs. military medical services is not a factor in the acceptance of extenders.

* It should be noted, however, that intercorrelations are relatively high, indicating that the scale is unidimensional, but not scalable.

However, in the analyses of beneficiary class groups some significant differences were found. These are presented in Tables III.C.58 through III.C.6[illegible]. Since the tables present approximately the same pattern for each question where a significant experience exists there is no need to describe each in detail. On questions concerning willingness to let the physician extender do preliminary examinations, do follow-up treatment, prescribe for minor illness, stitch minor wounds, and give most medical care, the Active Duty and Retired groups are significantly more likely to agree than are the two survivor groups. Since the Active Duty and Retired groups constitute over 90% of the sample, the degree of acceptance reflects total sample percentages. In each case, the Survivor groups are lower than the overall sample, but not different from each other. We find no obvious explanation for these results.

Finally, all analyses completed in this section were also done for the California and Texas subsamples with no meaningful differences being found.

Table III.C.58: Willingness to let Physician Assistant do Preliminary Examination.

Beneficiary Class	Response: Yes	No	Undecided	Total
Active Duty and Dependents	96.5% (2762)	3.5% (99)	.1% (2)	2863
Retired and Dependents	96.2% (2171)	3.3% (75)	.4% (10)	2256
Survivors of Active Duty	90.3% (278)	8.4% (26)	1.3% (4)	308
Survivors of Retirees	91.2% (207)	8.8% (20)		227
Unknown				87
			Total	5741

Table III.C.39: Willingness to let Physician Assistant do Follow-Up.

Beneficiary Class	Response: Yes	No	Undecided	Total
Active Duty and Dependents	79.1% (2264)	19.9% (517)	1.0% (28)	2863
Retired and Dependents	83.1 (1873)	15.5% (350)	1.4% (31)	2254
Survivors of Active Duty	67.3% (208)	28.5% (88)	4.2% (13)	309
Survivors of Retirees	70.5 (160)	28.6% (65)	.9% (2)	227
Unknown				87
			Total	5740

Table III.6.1: Willingness to let Physician Assistant Prescribe for Minor Illness.

Beneficiary Class	Response: Yes	No	Undecided	Total
Active Duty and Dependents	67.6% (1935)	31.8% (909)	.6% (17)	2861
Retired and Dependents	62.2% (1403)	36.7% (829)	1.1% (24)	2256
Survivors of Active Duty	46.6% (144)	51.1 (158)	2.3% (7)	309
Survivors of Retirees	48.5 (110)	50.7% (115)	.9 (2)	227
Unknown				87
			Total	5740

Table III.C.61: Willingness to let Physician Assistant Stitch Minor Wounds.

Beneficiary Class	Response			Total
	Yes	No	Undecided	
Active Duty and Dependents	82.6% (2354)	17.1% (488)	.3% (9)	2862
Retired and Dependents	89.1% (2012)	10.1% (228)	.7% (16)	2256
Survivors of Active Duty	62.7% (193)	35.7% (110)	1.6% (5)	308
Survivors of Retirees	69.5% (157)	30.5% (69)		226
Unknown				87
			Total	5739

Table III.C.02: Willingness to let Physician Assistant Give Most Medical Care.

Beneficiary Class	Response: Yes	No	Undecided	Total
Active Duty and Dependents	40.9% (1117)	59.1% (1690)	1.9% (54)	2861
Retired and Dependents	37.5% (846)	60.4% (1360)	2.1% (47)	2253
Survivors of Active Duty	25.7% (79)	70.7% (217)	3.6% (11)	307
Survivors of Retirees	21.6% (49)	76.2% (173)	2.2% (5)	227
Unknown				87
			Total	5735

D. DENTAL SERVICE UTILIZATION AND COST

This section describes the use and cost of dental services for a twelve-month period. Individual data were available for this task and results are presented using the total sample of respondents (both having some use and data on the relevant question. The basic substantive issues examined are the number of dental visits for each person during the past year and the total cost of those visits. Responses to these questions are compared for each beneficiary group, subsample area (California and Texas) and on four other demographic and economic variables, age, sex, family composition and income. In addition, beneficiary group and geographic location are then controlled while differences between demographic and economic status are reexamined.

In general, results from this section show substantial differences in dental care usage based on beneficiary class and certain differences in cost with beneficiary class controlled. Cost differences center around the use of free care. Differences in dental visits associated with economic location, Californians are likely to make a greater number of visits, are substantially reduced when income level is introduced. Those persons with higher income are likely to visit the dentist more often. Most demographic variables account for little difference in both visits.

D.1 Dental Visits by Beneficiary Class

Table III.D.1 shows the breakdown of total dental visits by beneficiary class. Looking first at the average number of visits, it can be seen that some [illegible] during the year prior to the interview. [illegible] from 1 to 3 visits and [illegible].

[illegible] Dental Visits by Beneficiary Class for Total Sample

Beneficiary Class	Number of Dental Visits 0	1	2	3-5	6-12	13 or more	NA		Average Visits Per Year
Active Duty Military	19.4% (556)	26.6% (762)	19.4% (556)	22.8% (654)	6.3% (179)	1.9% (55)	3.5% (101)	100%	2.381
Dependents of Active Duty Military	[illegible].5% (2700)	20.3% (1234)	12.6 (764)	11.8% (716)	3.9% (236)	1.5% (93)	5.3 (322)	100%	[illegible].477
Retired Military	37.7% (850)	18.1% (408)	15.0% (338)	18.1% (408)	6.6% (148)	2.0% (44)	2.6% (59)	100%	2.049
Dependents of Retired Military	[illegible]	17.0 ([illegible])	18.9% (868)	16.8% ([illegible])	4.5% (205)	1.9 (89)	[illegible].3% (245)	100	1.8[illegible]3
[illegible] of Active Duty Military	47.9% ([illegible])	12.[illegible]% (57)	17.2% (79)	10.7 ([illegible])	5.7 (26)	2.4% (11)	3.7% (17)	100%	[illegible]
Survivors of Deceased Military	34.[illegible] (117)	15.[illegible] ([illegible])	19.2 (66)	19.5 (67)	6.4 (22)	2.3 (8)	3.5 ([illegible])	100%	2.[illegible]
Totals	[illegible]	[illegible]	[illegible] (2671)	[illegible]	[illegible]	1.[illegible]	[illegible].6 (756)	[illegible]	1.842

Looking now at the internal cell values, it is evident that beneficiary class plays a significant role in dental visits. Only 19.4% of the active duty personnel failed to make at least one visit to the dentist. The remainder of the groups all exhibit greater than 1/3 of their number who fail to make the annual checkup. Except for the fact that active duty personnel show a generally higher proportion of visits in each of the next three categories (1 visit, 2 visits and 3-5 visits), there is little difference between the beneficiary classes. Thus, from 12.4% to 20.3% made one visit, from 12.6% to 19.2% made two visits, and from 10.7% to 19.5% made three to five visits. Interestingly, the proportion of the total sample in each visitation category is very similar also (19.9% one visit, 16.1% two visits, and 16.1% three to five visits). The proportions in the final (high visit) groups vary considerably, but in no set pattern. It might be expected that a similar sample taken for the next year would yield similar numbers, but perhaps in different beneficiary class than was true for this sample.

A final summary of visitation differences is provided in the last column of the Table where average visits by beneficiary class is presented. For each group total visits is divided by the number of individuals in the class to obtain this number. As reflected in previous figures on number of dental care facilities, active duty personnel show the highest average visitation. Respondents of active duty personnel exhibit the lowest average visitation. The high rate among active duty personnel may be explained in terms of pressure for annual checkups placed on these individuals by the military. The low rate for their dependents are more difficult to explain. One possible explanation is that this group is likely to contain the largest proportion of young children, age group 1-12, who exhibit the highest proportion of no visit individuals. This and other aberrant patterns will be discussed in detail below.

Tables III.D.2 and III.D.3 show dental visits by beneficiary class with geographic location controlled. When contrasting the tables it is evident that individuals in the California sample (Table III.D.2) were far more likely to go to the dentist than were individuals in the Texas sample (Table III.D.3). The average per year visits was 1.90 in California and 1.32 in Texas.* This difference is reflected in each of the beneficiary classes where the average number of visits is lower and the proportion of no visit respondents is higher thus ruling out a possible explanation centering around beneficiary group differences alone within each State. Of particular note is the fact that 37.7% of the active duty military personnel in Texas did not visit a dentist during the preceding year. This figure represents more than twice the proportion among California respondents showing this behavior pattern. Subsequent analysis based on demographic and economic variables serve to explain part of the difference and will be discussed below.

*The average number of visits was calculated by summing 1 times the number of single visits, 2 times the number of 2-time visits, 4 times the number of 3 to 5 visits, 9 times the number of 6 to 12 visits, and 13 times the number of 13 or more time visitors; then dividing by the total N in that group. This shorthand process was used as a matter of convenience because of the way visits were grouped. While the actual number probably over represents visitation rates because the higher visit categories are likely to have a distribution biased toward the lower end of the range, the relation values are accurate enough to permit valid comparisons of rates between beneficiary classes or geographic locations.

Table III.A.2: Dental Visits by Beneficiary Class for California Sample.

Beneficiary Class	Number of Dental Visits								Average Visits Per Year
	0	1	2	3-5	6-12	13 or more	NA		
Active Duty Military	16.9% (423)	26.5% (666)	20.4% (511)	23.7% (596)	6.7% (168)	2.1% (53)	3.7% (93)	100%	2.50
Dependents of Active Duty Military	42.8% (2317)	20.6% (1114)	13.1% (708)	12.3% (665)	4.0% (219)	1.6% (86)	5.6% (304)	100%	1.53
Retired Military	36.3% (741)	18.4% (376)	15.5% (316)	18.6% (380)	6.5% (132)	1.9% (38)	2.7% (56)	100%	2.06
Dependents of Retired Military	34.2% (1541)	17.0% (768)	19.6% (884)	17.2% (776)	4.6% (207)	2.0% (90)	5.3% (239)	100%	1.93
Survivors of Active Duty Military	46.8% (178)	11.8% (45)	18.9% (72)	11.6% (44)	5.0% (19)	2.9% (11)	2.9% (11)	100%	1.79
Survivors of Retired Military	33.9% (115)	14.5% (49)	19.5% (66)	19.8% (67)	6.5% (22)	2.4% (8)	3.5% (12)	100%	2.22
Other	35.0% (5186)	19.9% (2953)	16.8% (2493)	16.6% (2461)	5.1% (752)	1.9% (282)	4.7% (696)		1.90

Table III.3.3: Dental Visits by Beneficiary Class for Texas Sample

Beneficiary Class	Number of Dental Visits								Average Visits Per Year
	0	1	2	3	6-12	13 or more	NA		
Active Duty Military	37.7% (133)	27.2% (96)	12.7% (45)	16.4% (58)	3.1% (11)	.6% (2)	2.3% (8)	100%	1.54
Dependents of Active Duty Military	58.9% (383)	18.5% (120)	8.6% (56)	7.8% (51)	2.6% (17)	.8% (5)	2.8% (18)	100%	1.01
Retired Military	50.5% (109)	14.8% (32)	10.2% (22)	13.0% (28)	7.4% (16)	2.8% (6)	1.4% (3)	100%	1.90
Dependents of Retired Military	58.4% (223)	19.9% (76)	12.6% (58)	13.2% (61)	2.8% (13)	1.1% (5)	5.4% (25)	100%	1.34
Survivors of Active Duty Military	53.2% (42)	15.2% (12)	8.9% (7)	6.3% (5)	8.9% (7)	0 (0)	7.6% (6)	100%	1.38
Survivors of Retired Military	40.0% (2)	60.0% (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	100%	.60
[illegible]	50.6% (892)	19.2% (339)	10.7% (188)	11.5% (204)	3.6% (64)	1.0% (18)	3.4% (60)		1.32

D.2 Dental Care Costs by Beneficiary Class

The second important aspect of dental care is cost. General cost data for dental care for the entire sample are presented in Table III.D.4. To present these data the costs of dental care have been divided into seven paying categories and one free category. In examining the column totals in Table III.D.4 it can be seen that the sample is relatively evenly divided among the first six categories, i.e., although there is a slight drop the proportion in each category is 6% ±1.5 percentage points. Of the total number who had dental services, 42% received free care.

The last two columns in the Table present average cost figures for the total sample (and each group) and for dental service users respectively.* The average respondent spent about $43 on dental services for the previous year, while the average user spent almost twice that or about $93.

The beneficiary class breakdown of these data show interesting differences in cost patterns. Active duty military personnel present an almost no cost group, with 78.7% of the total group obtaining free dental care for the previous year and 2% of the dental care users being required to pay for some part of their dental care. Retired military are second most likely group to receive free care with 31.7% of the total group receiving no cost treatment and almost half of dental service users not paying. These numbers apparently represent access to and willingness to use military dental facilities. Other groups receive much smaller proportions of free care.

*Again, the means used here are calculated on the basis of grouped data and are not precisely accurate. For each cost category, except the last, the mid-point number was used to calculate the mean. Thus, in the $1-$20 category, $10 was used; in the $21-$40 category, $30 was used, etc. The figure of $400 was used for the final category. The resultant averages are probably somewhat high, but certainly not more than $10 because the largest errors can likely occur in the higher cost categories where there are relatively few respondents.

Table III.....: ost of Dental Care by Beneficiary Class for Total Sample

Beneficiary Class	Cost: $1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 or more	Free reimbursed, no pay	No visits	NA	Mean cost for all group Members	Mean Cost for Users
[illegible]	.0% (0)	.0% (11)	.2 (5)	.2% (6)	.1% (3)	.1% (2)	.1% (4)	78.7% (2254)	19.4% (556)	.2% (7)	Neg	Neg
[illegible]	3.5 (101)	3.4 (98)	4.4% (126)	.5% (29[illegible])	4.0 (240)	4.6% (276)	1.8% (109)	15.0% (914)	44.5% (2700)	4.8% (290)	$41.76	$82.[illegible]
[illegible]	3.3 (95)	3.7 (106)	4.1% (93)	4.1 (92)	4.7 (105)	4.4% (100)	1.6% (36)	31.9% (718)	37.7% (850)	.6% (13)	$39.65	$64.[illegible]
[illegible]	4.[illegible] ([illegible])	11.[illegible] (3[illegible])	7.1% (125)	9.0% (1[illegible])	7.6% (349)	7.1% (327)	3.1% (142)	7.9% (315)	35.6% (1635)	2.8% (129)	$69.92	$11[illegible].[illegible]
[illegible]	3.3 (96)	4.[illegible] (1[illegible])	3.2 (2[illegible])	3.[illegible] (8[illegible])	5.0% (23)	6.5% (30)	2.2% (10)	7.0% (32)	47.9% (220)	1.5% (7)	$55.38	$131.[illegible]
[illegible]	3.[illegible] (9[illegible])	11.[illegible] (4[illegible])	[illegible].[illegible] ([illegible])	[illegible].[illegible] ([illegible])	5.8% (27)	6.[illegible] (2[illegible])	2.6 (12)	4.1 (19)	44.0% ([illegible])	1.2% (4)	$74.59	$11[illegible].10
[illegible]	3.[illegible] ([illegible])	3.[illegible] ([illegible])	4.[illegible]% ([illegible])	3.[illegible] ([illegible])	4.6 (7[illegible])	4.6% ([illegible])	1.9% (3[illegible])	25.7% (4[illegible])	36.7 (60[illegible])	2.7% ([illegible])	$[illegible].40	$8[illegible].[illegible]

The absence of free military care is reflected in much higher average costs in the non-active duty groups. While costs for dental service users are negligible for active duty personnel, they range from $64 to $116 for users in the other groups. The difference is reflected primarily in the availability of free care rather than differences in the distribution of care across the cost categories. Retired military have the highest free service among non-active groups and the lowest per user cost. Survivors of retired military have the lowest free service and the highest per user cost.

The California and Texas subsamples exhibit substantial differences in costs for dental care. (Tables III.D.5 and III.D.6). For dental care users excluding active duty personnel the average cost for dental care in Texas was only $46.75, while the average cost in California was $96.75. This difference reflects uniform higher usage across all cost categories and it is true in all beneficiary classes as well. Generally, the California respondents are grouped into the higher cost categories. This means that within a given beneficiary group a greater proportion of the California respondents are likely to appear in the higher groups then is true for the Texas sample. It is not clear, from these data, why this should be the case. Perhaps it is that dental costs are generally more expensive in California than in Texas, but there is no available evidence to support that explanation. It would seem unlikely that the California residents would have more or worse dental problems then Texas residents. The fact that more California respondents visit dentists would not explain the average cost differences either.

Within each subsample there are some significant differences between beneficiary groups, but these differences are not systematic and occur more frequently in the smaller Texas subsample than in the California [illegible] more nearly reflect [illegible]

[illegible]

Table II-1.1: Cost of Dental Care by Beneficiary Class (California)

Beneficiary Class	Cost: $1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 or more	Free reimbursed, no pay	No visits	NA	Mean cost for all group Members	Mean Cost for Users
Active Duty Military	.6% (24)	.3% (8)	.2% (4)	.2% (4)	.1% (3)	.1% (2)	.2% (4)	81.4% (2043)	16.9% (423)	.2% (5)	Neg	Neg
Dependents of Active Duty Military	9.4% (511)	7.8% (422)	4.8% (260)	5.2% (284)	4.3% (235)	5.0% (273)	2.0% (107)	13.7% (739)	42.8% (2317)	4.9% (267)	$45.89	$88.24
Retired Military	5.2% (137)	5.9% (221)	4.3 ([illegible])	4.1% (153)	4.9% (190)	4.3% (97)	1.8% (36)	32.1% (654)	36.3% (741)	.6% (13)	$42.30	$67.32
Dependents of Retired Military	4.2% (196)	11.5% ([illegible])	7.4% (337)	9.4% (389)	8.0% (331)	7.4% (306)	3.3% (136)	6.2% (255)	34.2% (1412)	2.9% (121)	$73.39	$117.52
Survivors of Active Duty Military	7.9% (34)	11.4% (49)	5.8% (20)	6.6% (25)	5.3% (20)	7.1% (27)	2.4% (9)	6.1% (23)	46.8% (178)	1.3% (5)	$59.05	$115.08
Survivors of Retired Military	9.8% (45)	11.8% (54)	10.9% (37)	10.9% (37)	8.0% (27)	6.8% (23)	3.5% (12)	4.1% (14)	.9% (3)	1.2% (4)	$75.55	$117.48
[illegible]	7.5% [illegible]	7.5% [illegible]	4.8% (715)	5.5% (822)	4.8% (716)	4.9% (728)	2.1% (304)	25.2% (3725)	35.0% (5186)	2.8% (415)	$46.60	$96.75

Table III.D.1 Cost of Dental Care by Beneficiary Class (Texas)

Beneficiary Class	Cost $1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 or more	Free reimbursed, no pay	No visits	NA	Mean Cost for all group Members	Mean Cost for Users
Active Duty Military	.6% (2)	.3% (1)	.3% (1)	.3% (1)	0	0	0	59.8% (211)	37.7% (133)	.6% (2)	Neg	Neg
Dependents of Active Duty Military	3.1% (23)	1.1% (8)	.9% (6)	.9% (6)	.8% (5)	.5% (3)	.3% (2)	26.9% (175)	58.9% (383)	3.5% (23)	$7.37	$19.63
Retired Military	6.0% (13)	3.2% (7)	2.8% (6)	4.2% (9)	2.3% (5)	1.4% (3)	0	29.6% (64)	50.5% (109)	0	$14.63	$29.53
Dependents of Retired Military	12.5% (50)	7.3% (29)	3.9% (15)	5.0% (20)	3.9% (18)	4.6% (21)	1.3% (6)	13.0% (60)	48.4% (223)	1.7% (8)	$38.85	$77.67
Survivors of Active Duty Military	7.8% (7)	2.3% (2)	5.1% (4)	8.9% (7)	3.8% (3)	3.8% (3)	1.3% (1)	11.4% (9)	53.2% (42)	2.5% (2)	$37.72	$87.65
Survivors of Retired Military	40.0% (2)	20.0% (1)	0	0	0	0	0	0	40.0% (2)	0	Too Small N	
TOTALS	5.3% (94)	4.2% (74)	2.9% (51)	3.6% (64)	1.8% (31)	1.7% (30)	.5% (9)	29.4% (519)	50.6% (892)	2.0% (35)	$16.38	$46.75

population is unanswerable from the current data, although the uneven nature of the Texas data suggests that it is not a good predictor. However, the conditions which prevail in Texas could be true in other parts of the country as well. In the next section some demographic and economic differences will be investigated to determine if a likely explanation of the differences exists there.

D.3 Dental Visits by Demographic and Economic Factors

One economic (income) and three demographic (age, sex, and family composition) variables were used in an attempt to identify differences in dental visits and costs. This section describes differences in visits associated with these predictor variables. The following section will describe differences in costs.

Age: The most important difference in dental visits by age is the fact that respondents in the age group 1-12 years old are less likely to have visited a dentist (Table III.D.7). Forty-nine point five percent of this group had zero visits compared to 29.2% of the 13-19 year olds and 32.8% of the 20 and older group. This difference is probably the result of including children under 5 in this first age group. Thus, it can be expected that older children, say 6-12 year olds, might have a visitation rate approximately equal to that of the adolescents and adults.

The age group pattern extends to both California and Texas subsamples (Tables III.D.8 and III.D.9). In both instances, 1-12 year olds show lower visitation rates, although, as in previously discussed results, the rate is much higher for the Texas subsample. The group differences do not explain geographic differences discussed above.

Sex: Differences in number of visits for male and female are very small also. Females are slightly less likely to have visited a dentist, 67.0% responding negatively to 63% for males, during the previous year (Table III.D.7). The outside difference which reflect this 4% difference in attendance, the distribution of male and female visits is very similar. The California and Texas subsamples demonstrate identical patterns (Tables III.D.8 and III.D.9).

Table III.2.1: Number of Dental Visits by Age (Total Sample

Age	Number of Visits							
	0	1	2	3-5	6-12	13+	NA	N
1-17 years old	49.5% (1946)	16.4% (725)	12.2% (478)	9.8% (385)	3.5% (138)	1.1% (45)	5.4% (214)	100% (3931)
18-54 years old	29.4% (826)	20.8% (585)	17.9% (504)	15.6% (437)	5.8% (163)	4.2% (119)	6.2% (175)	100% (2809)
55-64 years old	33.9% (3376)	19.9% (1991)	17.1% (1719)	18.8% (1881)	5.2% (525)	1.4% (140)	3.8% (379)	100% (10002)
Unknown	12.5% (17)	5.1% (7)	2.2% (3)	1.5% (2)	.7% (1)	0	75.0% (102)	100% (136)
TOTAL	38.5% (6165)	19.8% (3312)	16.1% (2694)	16.0% (2705)	4.9% (827)	1.8% (304)	5.2% (870)	100% (16878)

Table III.2.1: Number of Dental Visits by Age (California)

Age	Number of Visits							
	0	1	2	3-5	6-12	13+	NA	N
1-12 years old	47.8% (1671)	18.9% (661)	12.7% (442)	10.2% (358)	3.5% (124)	1.2% (41)	5.6% (197)	100% (3494)
13-19 years old	27.6% (690)	21.0% (525)	18.6% (466)	16.1% (402)	5.9% (148)	4.7% (117)	6.2% (155)	100% (2503)
20-44 years old	32.2% (2878)	19.8% (1774)	17.8% (1589)	19.4% (1734)	5.4% (486)	1.4% (128)	3.9% (353)	100% (8942)
Unknown age	4.8% (12)	3.2% (8)	1.2% (3)	0	.8% (1)	0	80.8% (101)	100% (125)
Total	34.9% (5251)	19.7% (2968)	16.6% (2500)	16.6% (2494)	5.0% (759)	1.9% (286)	5.4% (806)	100% (15064)

Table III...4: Number of Dental Visits by Age (Texas)

Age	Number of Visits							
	0	1	2	3-5	6-12	13+	NA	N
1-12 years old	62.9% (275)	14.6% (64)	8.2% (36)	6.2% (27)	3.2% (14)	.9% (4)	3.9% (17)	100% (437)
13-19 years old	44.4% (136)	19.6% (60)	12.4% (38)	11.4% (35)	4.9% (15)	.7% (2)	6.5% (20)	100% (306)
20-44 years old	37.0% (488)	20.5% (271)	11.4% (151)	13.9% (184)	3.7% (49)	1.1% (15)	2.5% (33)	100% (1321)
45 and over	45.5% (5)	27.3% (3)	0%	18.2% (2)	0%	0%	9.1% (1)	100% (11)
TOTAL	50.1% (924)	19.9% (368)	10.7% (195)	11.6% (211)	3.7% (68)	1.0% (18)	3.5% (64)	(1828)

AD-A100 853 HUMAN RESOURCES RESEARCH ORGANIZATION ALEXANDRIA VA F/G 6/5
MILITARY HEALTH SERVICE SYSTEM: NON-USER AND USER PERCEPTIONS A--ETC(U)
JUN 77 R J OREND, R D ROSENBLATT MDA903-77-C-0040
UNCLASSIFIED HUMRRO-FR-ED-77-14 NL

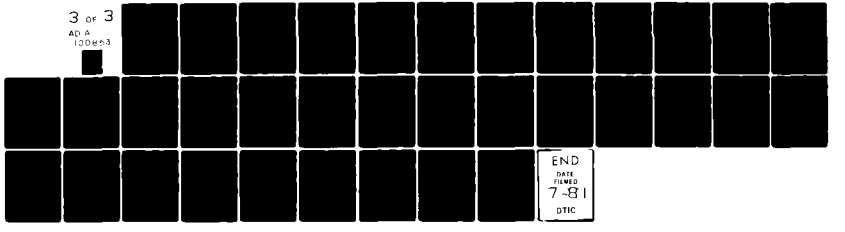


Table III.D.10: Number of Dental Visits by Sex (Total Sample)

SEX	Number of Visits 0	1	2	3-5	6-12	13+	NA	N
Male	34.0% (2902)	21.4% (1825)	16.0% (1364)	17.2% (1465)	5.2% (447)	1.9% (165)	4.2% (355)	8523
Female	39.5% (3262)	18.0% (1485)	16.1% (1331)	15.0% (1240)	4.6% (380)	1.7% (139)	5.0% (414)	8251
TOTAL	36.7% (6164)	19.7% (3310)	16.1% (2695)	16.1% (2705)	4.9% (827)	1.8% (304)	4.6% (769)	16774

Table III.D.11: Number of Dental Visits by Sex (California)

SEX	Number of Visits 0	1	2	3-5	6-12	13+	NA	N
Male	32.3% (2445)	21.7% (1641)	16.6% (1258)	17.8% (1346)	5.4% (408)	2.0% (152)	4.3% (324)	7574
Female	38.0% (2805)	17.9% (1325)	16.8% (1242)	15.5% (1148)	4.8% (351)	1.8% (134)	5.2% (381)	7386
TOTAL	35.1% (5250)	19.8% (2966)	16.7% (2500)	16.7% (2494)	5.1% (759)	1.9% (286)	4.7% (705)	14960

Table III.D.12: Number of Dental Visits by Sex (Texas)

SEX	Number of Visits 0	1	2	3-5	6-12	13+	NA	N
Male	48.2% (457)	19.4% (184)	11.2% (106)	12.5% (119)	4.1% (39)	1.4% (13)	3.3% (31)	949
Female	52.8% (457)	18.5% (160)	10.3% (89)	10.6% (92)	3.4% (29)	.6% (5)	3.8% (33)	865
TOTAL	50.4% (914)	19.0% (344)	10.7% (195)	11.6% (211)	3.7% (68)	1.0% (18)	3.5% (64)	1814

slightly less likely to have visited a dentist (Tables III.D.11 and III.D.12). The difference in visitation level between the two states remains, however. Males and females in Texas are far less likely to have visited a dentist.

Family Composition: Tables III.D.13, III.D.14, and III.D.15 present comparisons of dental visits to number of dependents for the total sample and each of the subsamples. The number of dependents is equal to the number of direct dependents other than the active duty or retired member. Results in this table are for individuals, no families, therefore they indicate the extent to which being in a larger or smaller family predicts a greater or smaller number of dental care visits. Although there is again slight variation around the overall proportion for each dental visit group, the overall differences are small and they exhibit ro fixed pattern. The geographic areas are not different on the family composition dimension and reflect the recurring pattern of greater dental visits in California and less in Texas.

Income: Income and dental visits exhibit a distinct pattern--as income increases the likelihood of not visiting a dentist in the preceding year decreases (Table III.D.16). Over 48% of those who earn $6,000 or less did not visit a dentist, while only 17% of those who earn $30,000 to $39,000 did not visit a dentist. Only the $40,000+ group breaks this uniform positive correlation between income and dental visits with 21.3% not visiting the dentist. The number of visits to the dentist does not seem to be affected by income differences once the initial visit has been accomplished. The variation in the remaining visitation categories is not substantially different across income groups.

Table III.D.13: Family Composition (Dependents) by Number of Dental Visits (Total Sample)

Dependents	Number of Visits							
	0	1	2	3-5	6-12	13+	NA	N
0	32.7% (373)	19.7% (225)	16.6% (189)	18.8% (215)	6.7% (76)	2.5% (28)	3.1% (35)	1141
1	34.4% (1163)	18.1% (612)	16.2% (547)	18.1% (611)	4.7% (158)	1.5% (50)	7.1% (240)	3381
2	40.7% (1334)	17.7% (579)	15.0% (490)	15.5% (509)	4.9% (159)	1.6% (54)	4.6% (151)	3276
3	36.2% (1364)	20.8% (785)	16.7% (630)	15.9% (600)	4.3% (163)	1.8% (69)	4.3% (161)	3772
4	34.8% (935)	20.9% (560)	17.8% (478)	14.8% (398)	5.1% (136)	2.1% (56)	4.5% (122)	2685
5	36.1% (516)	21.8% (312)	14.2% (203)	15.3% (219)	5.2% (74)	1.6% (23)	5.7% (81)	1428
6 or more	40.0% (480)	20.0% (239)	13.0% (158)	13.0% (153)	5.0% (61)	2.0% (24)	7.0% (80)	1195
TOTAL	36.5% (6165)	19.6% (3312)	16.0% (2695)	16.0% (2705)	4.9% (827)	1.8% (304)	5.2% (870)	16878

Table III.D.14: Family Composition (Dependents) by Number of Dental Visits (California)

Dependents	Number of Visits 0	1	2	3-5	6-12	13+	NA	N
0	30.8% (303)	19.2% (191)	17.7% (176)	19.8% (197)	7.0% (70)	2.7% (27)	3.3% (33)	997
1	32.9% (1001)	18.0% (547)	16.7% (509)	18.6% (567)	4.9% (148)	1.5% (46)	7.4% (226)	3044
2	38.7% (1098)	17.6% (500)	15.9% (451)	16.5% (467)	4.8% (136)	1.7% (49)	4.8% (137)	2838
3	34.2% (1151)	21.2% (713)	17.4% (587)	16.3% (549)	4.6% (154)	1.9% (63)	4.5% (151)	3368
4	32.7% (776)	21.1% (501)	18.7% (445)	15.3% (364)	5.3% (127)	2.3% (55)	4.5% (107)	2375
5	35.0% (452)	22.4% (289)	13.7% (177)	15.9% (205)	5.0% (65)	1.7% (22)	6.2% (80)	1290
6 or more	41.0% (470)	20.0% (227)	13.0% (155)	13.0% (145)	5.0% (59)	2.0% (24)	6.0% (72)	1152
TOTAL	34.9% (5251)	19.7% (2968)	16.6% (2500)	16.6% (2494)	5.0% (759)	1.9% (286)	5.4% (806)	15064

Table III.D.15: Family Composition (Dependents) by Number of Dental Visits (Texas)

Dependents	Number of Visits							
	0	1	2	3-5	6-12	13+	NA	N
0	48.6% (70)	23.6% (34)	9.0% (13)	12.5% (18)	4.2% (6)	.7% (1)	1.4% (2)	144
1	48.1% (162)	19.3% (65)	11.3% (38)	13.1% (44)	3.0% (10)	1.2% (4)	4.2% (14)	337
2	53.9% (236)	18.0% (79)	8.9% (39)	9.6% (42)	5.3% (23)	1.1% (5)	3.2% (14)	438
3	52.7% (213)	17.8% (72)	10.6% (43)	12.6% (51)	2.2% (9)	1.5% (6)	2.5% (10)	404
4	51.3% (159)	19.0% (59)	10.6% (33)	11.0% (34)	2.9% (9)	.3% (1)	4.8% (15)	310
5	46.4% (64)	16.7% (23)	18.8% (26)	10.3% (14)	6.5% (9)	.7% (1)	.7% (1)	138
6 or more	23.0% (10)	28.0% (12)	7.0% (3)	19.0% (8)	5.0% (2)	0	19.0% (8)	43
TOTAL	50.4% (914)	19.0% (344)	10.7% (195)	11.6% (211)	3.7% (68)	1.0% (18)	3.5% (64)	1814

Table III.D.16: Dental Visits by Family Income (Total Sample)

Family Income	Number of Dental Visits							
	None	1	2	3-5	6-12	13+	NA	Total
Less than 6K	48.3% (973)	16.5% (333)	11.8% (238)	13.5% (272)	4.5% (90)	1.6% (33)	5.1% (102)	2014
6-8K	45.1 (947)	18.3 (385)	11.9 (249)	14.6 (306)	3.9 (81)	1.1 (23)	5.1 (108)	2099
8-10K	41.1 (1041)	20.9 (530)	13.4 (340)	13.0 (328)	4.6 (116)	1.4 (35)	5.6 (142)	2532
10-15K	37.3 (1752)	20.6 (968)	15.0 (705)	15.4 (724)	4.7 (221)	1.6 (75)	5.3 (250)	4695
15-20K	30.2 (829)	20.5 (563)	19.6 (538)	16.6 (456)	5.5 (150)	2.3 (63)	5.4 (148)	2747
20-25K	23.4 (326)	20.9 (291)	22.2 (310)	21.2 (296)	5.5 (77)	3.0 (42)	3.8 (53)	1395
25-30K	19.8 (126)	19.3 (123)	23.5 (142)	8.0 (150)	8.0 (51)	1.6 (10)	5.5 (35)	637
30-40K	17.0 (77)	21.2 (96)	26.1 (118)	22.3 (101)	6.6 (30)	3.1 (14)	3.5 (16)	452
40+ K	21.3 (35)	18.9 (31)	18.3 (30)	29.3 (48)	4.3 (7)	4.3 (7)	3.7 (6)	164
NA	41.3 (59)	13.3 (19)	17.5 (25)	16.8 (24)	2.8 (4)	1.4 (2)	7.0 (10)	143
Total	36.5 (6165)	19.6 (3312)	16.0 (2695)	16.0 (2705)	4.9 (827)	1.8 (304)	5.2 (870)	16878

Both California and Texas subsamples show approximately the same pattern in the relationship of income and dental visits (Tables III.D.17 and III.D.18). While the same pattern exists, the distribution of income groups within regions helps to explain previously discussed differences in dental visits. The right hand total column of each Table shows the distributions for income groups. These distributions reflect a much lower general income level in the Texas subsample than in the California subsample. If, as seems to be demonstrated in Table III.D.16, income is a factor in the decision to visit a dentist, then the fact that those living in California are more likely to visit a dentist is at least partially explained by the difference in income between the two areas.

Cost differences, however, are not explained. Nor is the counter-argument that the proportion of income used in Texas is no greater than the proportion used in California. The reason for income distribution differences in the two samples may be a function of: (1) the rank of active duty personnel stationed in the two areas; (2) the rank of retired personnel living in those areas; and/or (3) the kinds of jobs available to retired and dependent personnel in those areas.

A further confounding factor in the analysis of income as a predictor of dental visits is that income is usually strongly related to education level. If the observed result were simply the result of an education/dental visit relationship, the list of possible explanations would vary greatly. In that case one might offer a common sense argument that better educated personnel are likely to consider the implications of failure to make regular dental visits

Further investigation of this question will be described below when dental visits and income are compared while controlling for beneficiary class.

Table III.D.17: Dental Visits by Family Income (California Sample)

Family Income	Number of Dental Visits							
	None	1	2	3-5	6-12	13+	NA	Total
Less than 6K	46.1% (771)	14.5% (242)	12.4% (208)	14.5% (243)	4.8% (81)	1.9% (32)	5.8% (97)	1674
6-8K	42.6 (766)	18.6 (334)	12.7 (229)	15.2 (273)	4.1 (73)	1.2 (22)	5.7 (102)	1799
8-10K	39.5 (880	21.4 (476)	14.1 (314)	13.4 (298)	4.5 (100)	1.3 (28)	5.9 (132)	2228
10-15K	36.3 (1499)	20.7 (858)	15.2 (629)	15.9 (658)	4.8 (198)	1.7 (69)	5.4 (224)	4135
15-20K	29.4 (754)	20.5 (526)	20.1 (515)	16.7 (248)	5.6 (144)	2.3 (60)	5.5 (141)	2568
20-25K	23.2 (308)	21.0 (278)	22.4 (297)	20.9 (277)	5.6 (74)	3.2 (42)	3.8 (50)	1326
25-30K	19.3 (118)	19.5 (119)	22.7 (139)	23.9 (146)	8.2 (50)	1.6 (10)	4.7 (29)	611
30-39K	17.0 (75)	20.0 (88)	26.8 (118)	22.7 (100)	6.6 (29)	3.2 (14)	3.6 (16)	440
40+ K	21.1 (34)	18.0 (29)	18.0 (30)	29.8 (48)	4.3 (7)	4.3 (7)	3.7 (6)	161
NA	37.7 (46)	14.8 (18)	17.2 (21)	18.9 (23)	2.5 (3)	1.6 (2)	7.4 (9)	122
Total	34.9 (5251)	19.7 (2968)	16.6 (2500)	16.6 (2494)	5.0 (759)	1.9 (286)	5.4 (806)	15064

Table III.D.18:Dental Visits by Family Income (Texas Sample)

Family Income	Number of Dental Visits							
	None	1	2	3-5	6-12	13+	NA	Total
Less than 6K	51.4% (175)	19.4% (66)	8.8% (30)	8.5% (29)	2.6% (9)	.3% (1)	1.5% (5)	340
6-8K	61.3 (184)	17.7 (53)	6.7 (20)	11.0 (33)	2.7 (8)	.3 (1)	2.0 (6)	300
8-10K	53.0 (161)	17.8 (54)	8.6 (26)	9.9 (30)	5.3 (16)	2.3 (7)	3.3 (10)	304
10-15K	45.2 (253)	19.6 (110)	13.6 (76)	11.8 (66)	4.1 (23)	1.1 (6)	4.6 (26)	560
15-20K	41.9 (75)	20.7 (37)	12.8 (23)	15.6 (28)	3.4 (6)	1.7 (3)	3.9 (7)	179
20-25K	36.1 (18)	18.8 (13)	18.8 (13)	27.5 (19)	4.3 (3)	0	4.3 (3)	69
25-30K	30.8 (8)	15.4 (4)	11.5 (3)	15.4 (4)	3.8 (1)	0	23.1 (6)	26
30-39K	16.7 (2)	66.7 (8)	0	8.3 (1)	8.3 (1)	0	0	12
40+ K	33.3 (1)	66.7 (2)	0	0	0	0	0	3
NA	61.9 (13)	4.8 (1)	19.0 (4)	4.8 (1)	4.8 (1)	0	4.8 (1)	21
Total	50.4 (914)	19.0 (344)	10.7 (195)	11.6 (211)	3.7 (68)	1.0 (18)	3.5 (64)	1814

D.4 Dental Costs by Demographic and Economic Factors

Age: Cost by age differences are shown in Tables III.D.19 through III.D.21. In Table III.D.19 there are two interesting differences exhibited. First, the proportion of free or no pay visits increases with age. One to 12 year olds have virtually no free visits, the 13-19 year old group has 16% free visits and the 20 and older group has 34% free visits. These figures reflect the proportion of active duty personnel in each sample and this question will be examined below. Second, older respondents who paid for their dental visits tended to have somewhat more costly visits than younger respondents. This was less true of the differences between 13-19 year olds and the 20 and over group than it was between the 1-12 year olds and both older groups. The crossover point is approximately in the $40-60 range. Up to that point a greater proportion of the youngest group is in evidence (52% of the first two categories compared to 41% to 35% respectively for the older groups), while after that point the older groups are clustered (35% of the 1-12 year-olds in the most costly four groups and 51% of the 20-99 year olds in that same range). These differences are probably a function of the fact that dental procedures generally become more complicated beginning in the teen-age years.

Both the California and Texas subsamples exhibit approximately the same pattern, the exception being an unusually large number of free and no pay children in the Texas Group (Tables III.D.20 and III.D.21). This exception could be the result of a special program or on-post facilities which are more accessible to this age group in the Texas location.*

* Also, it could be the result of sampling error in this relatively small group.

Table III.D.19: Dental Costs by Age (Total Sample)

Age	$1-$20	$21-$60	$61-$100	$101-$200	$201-$400	$401-$600	$601 +	Total Non Incurred Costs	Free or No Pay	No Visits	NA	Total
6-12 Years Old	39%* (537)	23%* (317)	12%* (161)	14%* (188)	10%* (140)	9%* (126)	2%* (33)	99% (1354)	0 (6)	50%** (1946)	5%** (193)	3931
13-19 Years Old	23 (285)	21 (298)	11 (159)	16 (215)	13 (182)	13 (187)	6 (86)	103% (1412)	16 (448)	29 (826)	5 (129)	2809
20-99 Years Old	16 (911)	19 (1355)	14 (1008)	15 (1061)	14 (1007)	15 (1056)	6 (260)	100% (7120)	34 (3371)	34 (3376)	1 (135)	10002
Unknown	20 (2)	7 (1)	13 (1)	27 (3)	20 (2)	0	7 (1)	104% (10)	(6)	(17)	(103)	136
Total	27 (1195)	20 (1195)	13 (739)	15 (855)	13 (731)	14 (778)	5 (321)	107% (5890)	25 (4267)	37 (6165)	3 (560)	16878

* = % of total incurring costs

** = % of total in category

Table III.D.20: Dental Costs by Age (California Sample)

Age	$1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 +	Total Who Incurred Costs	Free or No Pay	No Visits	NA	Total
0-12 Years Old	27* ([illegible])	[illegible]* (255)	[illegible]* ([illegible])	[illegible]* ([illegible])	11* (137)	[illegible]* ([illegible])	[illegible]* ([illegible])	[illegible] ([illegible])	10[illegible]** (34[illegible])	[illegible]** (1671)	5[illegible]** ([illegible])	34[illegible]
[illegible] Years Old	[illegible] ([illegible]7)	[illegible] ([illegible]7)	12 ([illegible])	16 (269)	13 (169)	13 (175)	[illegible] ([illegible])	[illegible] ([illegible])	15 (381)	[illegible] ([illegible])	5 (118)	25[illegible]3
[illegible] Years Old	[illegible] ([illegible])	[illegible] ([illegible])	12 ([illegible])	15 ([illegible])	14 ([illegible])	[illegible] ([illegible])	7 ([illegible])	[illegible] ([illegible])	34 ([illegible])	32 (2578)	1 ([illegible])	6942
Unknown	25 (2)	38 (3)	0	[illegible] (1)	25 (2)	0	0	100% (8)	2 (3)	10 (22)	[illegible] ([illegible])	125
Total	[illegible] ([illegible])	[illegible] ([illegible])	13 ([illegible])	[illegible] ([illegible])	13 (729)	[illegible] ([illegible])	6 ([illegible])	100% (5545)	25 (3743)	35 (5251)	3 (523)	[illegible]

* % of total incurring costs

** % of total in category

[illegible]

Age	[illegible]	[illegible]	[illegible]	Sel- [illegible]	[illegible]	[illegible]	[illegible]	Total [illegible] Incurred Costs	Free or No Pay	No Visits	NA	Total
[illegible] Years Old	27% (14)	37% (19)	6% (3)	17% (9)	6% (3)	6% (3)	2% (1)	101% (52)	22%** (98)	63%** (275)	3%** (12)	[illegible]
[illegible] Years Old	30% (23)	25% (23)	8% (7)	7% (6)	14% (13)	13% (12)	3% (3)	100% (92)	22% (67)	44% (136)	4% (11)	[illegible]
[illegible]-99 Years Old	29% (56)	18% (35)	14% (28)	18% (36)	8% (16)	10% (20)	3% (6)	100% (197)	33% (352)	47% (498)	1% (13)	1060
Unknown	0	0	50%* (1)	50% (1)	0	0	0	100% (2)	(3)	(5)	(1)	11
Total	29% (98)	22% (77)	11% (39)	15% (52)	9% (32)	10% (35)	3% (10)	99% (343)	29% (519)	50% (914)	2% (37)	1817

* Percent of total incurring costs.

** Percent of total in category.

Sex: On the total sample and both subsamples the primary difference between men and women is the availability of free care. The males, primarily active duty, have free care available and are much more likely to use it (38% to 12% in the total sample). Otherwise costs are much the same for men and women. The slight difference between the two groups in the $1 - $20 category probably reflects the annual check-up which women must pay for and active duty men receive free. These results are shown in Tables III.D.22 through III.D.24.

Family Composition: Respondents with no dependents are most likely to obtain free or no pay dental care (45% in the total sample). (See Table III.D.25.) Among the remaining dependent groups there is little difference in obtaining free care. A slight tendency for those with more dependents to fall into the smallest payment category exists, also, but this trend is broken in the six or more dependent category. Beyond these minor differences there are no systematic differences on family composition and cost for the total sample.

The California subsample shows an almost identical pattern (Table III.D.26). The Texas subsample, on the other hand, reverses the Free and No Pay trend (Table III.D.27). Among those beneficiaries living in Texas the trend is toward increased free care as the number of dependents increases. Elsewhere on this table the pattern is less regular than for the California subsample. This is similar to the outcomes on other variables and may reflect sampling error or the peculiarities of the restricted population used for the survey.

Income: The relationship between family income and number of visits has already been discussed. In Table III.D.28 some additional information is presented. Generally, as income goes up the proportion of free and no pay visits goes down. However, in the remainder of the Table similar relationships between the amount of money earned and the amount paid for dentist bills do not

Table III.D.22: Dental Costs by Sex (Total Sample)

Sex	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Total [illegible] Incurred Costs	Free or No Pay	No Visits	NA	Total
Male	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]** (3276)	[illegible]	[illegible]**	[illegible]
Female	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12 [illegible]	[illegible]	3 [illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	67 [illegible]	[illegible]	[illegible]

* % of those who incurred costs

** % of total N in Group

Table III.D.23: Dental Cost by Sex (California Sample)

Sex	$1-$20	$21-$50	$51-$100	$101-$200	$201-$500	$501+	Total Who Incurred Costs	Free or No Pay	No Visits	NA	Total
Male	[illegible]*	[illegible]*	[illegible]*	[illegible]*	[illegible]*	[illegible]*	[illegible]	[illegible]** (2946)	[illegible]** (2443)	[illegible]** (154)	7574
Female	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] (3823)	[illegible] (300)	[illegible] (2805)	[illegible] (256)	7382
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] (5345)	25 (3743)	35 (5250)	3 (422)	14960

Table III.D.24: Dental Cost by Sex (Texas Sample)

Sex	$1-$20	$21-$50	$51-$100	$101-$200	$201-$500	$501+	Total Who Incurred Costs	Free or No Pay	No Visits	NA	Total
Male	[illegible]*	[illegible]*	[illegible]*	[illegible]*	[illegible]*	[illegible]*	[illegible]*	[illegible]*	[illegible]** (357)	[illegible]** (137)	929
Female	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] (457)	[illegible] (23)	885
Total	29 (22)	22 (17)	11 (8)	15 (11)	4 (3)	10 (7)	3 (2)	966 (73)	29 (529)	50 (914)	2 (37)	1814

* % of those who incurred costs

** % of total N in group

Table III.D.25: Dental Costs by Family Composition (Total Sample)

Number of Dependents	$1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 +	Total Who Incurred Costs	Free or No Pay	No Visits	NA	Total
None	17%* (43)	20%* (50)	14%* (34)	14%* (34)	10%* (26)	18%* (45)	6%* (16)	100% (248)	45%** (512)	33%** (373)	1%** (8)	1141
1	14% (158)	20% (229)	14% (161)	15% (178)	16% (180)	15% (173)	7% (82)	100% (1161)	26% (891)	34% (1163)	5% (166)	3381
2	18% (195)	20% (209)	13% (131)	15% (158)	15% (156)	13% (140)	6% (58)	100% (1047)	24% (799)	41% (1334)	3% (96)	3276
3	21% (335)	22% (318)	13% (183)	14% (203)	13% (182)	12% (170)	5% (76)	100% (1437)	24% (887)	36% (1364)	2% (84)	3772
4	24% (257)	21% (221)	13% (140)	17% (181)	10% (104)	11% (119)	5% (51)	100% (1073)	22% (600)	35% (935)	3% (77)	2685
5	31% (165)	17% (87)	11% (58)	14% (72)	10% (55)	14% (72)	3% (15)	100% (524)	23% (327)	36% (516)	4% (61)	1428
6 or more	24% (72)	18% (71)	13% (52)	15% (60)	15% (58)	14% (54)	6% (23)	101% (390)	21% (247)	40% (480)	6% (68)	1195
Total	20% (1165)	20% (1195)	13% (759)	15% (886)	13% (761)	14% (773)	5% (321)	100% (5880)	25% (4263)	37% (6165)	3% (560)	16878

* Percent of those who incurred costs.

** Percent of 'total' N in group.

Table III.D.2b: Dental Costs by Family Composition (California)

Number of Dependents	$1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 +	Total Who Incurred Costs	Free or No Pay	No Visits	NA	Total
None	16%** (37)	20%* (46)	15%* (33)	12%* (28)	11%* (25)	19%* (42)	7%* (16)	100%* (227)	46%** (459)	30%** (303)	1%** (8)	997
1	13% (140)	20% 213)	14% (150)	15% (164)	16% (171)	15% (165)	7% (80)	100% (1089)	26% (796)	33% (1001)	5% (158)	3044
2	18% 171)	20% (195)	12% .(115)	14% (143)	15% (145)	17% (131)	5% (52)	100% (952)	25% (703)	39% (1098)	3% (85)	2838
3	21% (282)	22% (295)	13% (179)	14% (194)	13% (177)	12% (164)	5% (74)	100% (1365)	23% (772)	34% (1151)	2% (80)	3368
4	24% (241)	23% (236)	14% (138)	17% (173)	10% (100)	11% (112)	5% (51)	101% (1021)	21% (509)	33% (776)	3% (69)	2375
5	31% (154)	16% (75)	11% (54)	14% (72)	11% (54)	14% (70)	3% (15)	100% (497)	22% (280)	35% (452)	5% (61)	1290
6 or more	18% (72)	20% (79)	13% (51)	15% (60)	14% (57)	14% (54)	6% (23)	100% (396)	19% (224)	41% (470)	5% (62)	1152
Total	21% (1 [illegible])	21% ([illegible])	13% (920)	15% (834)	13% (729)	13% (738)	6% (311)	37% (5547)	25% (3743)	35% ([illegible])	4% (523)	15064

[illegible] percent of those who incurred costs.

[illegible] percent of total [illegible].

Table III.D.27: Dental Costs by Family Composition (Texas)

Number of Dependents	$1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 +	Total Who Incurred Costs	Free or No Pay	No Visits	NA	Total
None	29%* (6)	19%* (4)	5%* (1)	29%* (6)	5%* (1)	14%* (3)	0	101%* (21)	37%** (53)	49%** (70)	0	144
1	25% (18)	14% (10)	15% (11)	19% (14)	13% (9)	11% (8)	3% (2)	100% (72)	28% (95)	48% (162)	2% (8)	337
2	25% (24)	15% (14)	17% (16)	16% (15)	12% (11)	9% (9)	6% (6)	100% (95)	22% (96)	54% (236)	3% (11)	438
3	32% (23)	32% (23)	6% (4)	13% (9)	7% (5)	8% (6)	3% (2)	101% (72)	29% (115)	53% (213)	1% (4)	404
4	31% (16)	29% (15)	4% (2)	15% (8)	8% (4)	13% (7)	0	100% (52)	29% (91)	51% (159)	3% (8)	310
5	41 (11)	33% (9)	15% (4)	0	4% (1)	7% (2)	0	100% (27)	34% (47)	46% (64)	0	138
6 or more	0	50% (2)	25% (1)	0	25% (1)	0	0	100% (4)	54% (23)	23% (10)	14% (6)	43
Total	29% (98)	22% (77)	11% (39)	15% (52)	9% (32)	10% (35)	3% (10)	99% (343)	29% (520)	50% (914)	2% (37)	1814

* Percent of those who incurred costs.

** Percent of total N in group.

Table III.D.28: Dental Costs by Family Income (Total Sample)

Family Income	$1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 +	Total Who Incurred Costs	Free or No Pay	No Visits	NA	Total
Less than 6K	[illegible]* [illegible]	[illegible]* [illegible]	[illegible]* (62)	15%* (86)	14%* (82)	13%* (76)	5%* (32)	101% (563)	34%** (693)	48%** (973)	4%** (85)	2314
6-8K	27 (114)	25 (106)	12 (52)	12 (53)	11 (48)	14 (58)	4 (18)	100% (426)	31 (646)	45 (947)	4 (80)	2049
8-10K	22 (150)	20 (137)	11 (76)	15 (102)	13 (89)	14 (90)	4 (60)	99% (674)	29 (731)	41 (1041)	3 (86)	2532
10-15K	20 (332)	20 (334)	14 (240)	15 (248)	14 (229)	12 (196)	5 (80)	100% (1659)	43 (2005)	37 (1752)	4 (179)	4635
15-20K	19 (242)	21 (268)	12 (149)	15 (192)	13 (164)	14 (171)	6 (79)	100% (1248)	22 (595)	30 (829)	3 (75)	2747
20-25K	[illegible] (166)	20 (171)	15 (126)	14 (112)	11 (91)	13 (102)	6 (51)	99% (795)	18 (250)	23 (326)	2 (24)	1395
25-30K	14 (86)	23 (83)	11 (61)	14 (53)	13 (47)	12 (44)	7 (25)	101% (370)	20 (126)	20 (126)	2 (15)	637
30-39K	17 (55)	19 (56)	9 (27)	18 (51)	16 (45)	17 (49)	5 (14)	100% (287)	17 (77)	17 (77)	2 (11)	452
40+ K	16 (27)	18 (29)	8 (8)	27 (29)	15 (16)	8 (9)	8 (3)	100% (196)	14 (23)	21 (35)	0	164
NA	14 (6)	34 (15)	10 (4)	18 (8)	8 (3)	29 (13)	6 (2)	100% (62)	12 (17)	41 (59)	3 (5)	143
Total	21 (1195)	20 (1195)	13 (771)	15 (886)	13 (761)	14 (773)	5 (321)	35 (5890)	25 (4263)	37 (6165)	3 (580)	16878

* = % of those who incurred costs, ** = % of total N in group

predict the amount of dental work required or its cost.

The above findings are generally supported in each State subsample, although it should be noted that the Texas subsample is quite erratic (Tables III.D.29 and III.D.30). This may be explained by the large number of cells and relatively small cell values found in this Table.

The preceding descriptions have demonstrated relationships between dental service cost and age, cost and sex, cost and family composition, and cost and income. These relationships have centered primarily around the use of free or no pay care and suggest that a crucial intervening variable may be beneficiary class (particularly active duty status). In the analysis of visitation relationships between dental visitation and age, and visitation and income were described. In the following section of the report these positive relationships will be examined in somewhat greater detail.

D.5 Dental Visits and Cost by Demographic and Economic Factors Controlling for Beneficiary Class and Geographic Area

The analyses performed for this section included an examination of the impact of each demographic and economic variable on dental visition and cost while controlling for membership in beneficiary class and State of residence. In order to provide a more parsimonious presentation only those results found to be significant will be presented. Any particular interaction not discussed may be assumed to exhibit no relationship. Particular attention will be paid to those positive findings discussed in the previous sections.

Sex: Controlling for beneficiary class brought no changes in the absence of a relationship between sex and dental visits. It appears that going to the dentist is not a sex linked characteristic. Likewise, the cost of dental care for those who paid is not related to sex. The previously discussed

Table III.D.29: Dental Costs by Family Income (California)

Family Income	$1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 +	Total Who Incurred Costs	Free or No Pay	No Visits	NA	Total
Less than 6K	24* (47)	20* (47)	14* (30)	14* (31)	15* (34)	14* (33)	5* (12)	100% (234)	35%** (587)	46%** (772)	5%** (82)	1674
6-8K	24 ([illegible])	21 (61)	13 (39)	13 (40)	11 (35)	14 (54)	4 (17)	100% (323)	32 (569)	43 (766)	4 (72)	1799
8-10K	22 (141)	21 (131)	11 (71)	15 (95)	13 (84)	14 (85)	4 (27)	100% (644)	28 (633)	39 (880)	4 (81)	2228
10-15K	14 ([illegible])	19 (291)	15 (224)	15 (220)	14 (218)	12 (184)	5 (77)	100% (1514)	23 (934)	36 (1439)	4 (168)	4135
15-20K	14 (256)	21 (257)	11 (134)	15 (184)	12 (146)	14 (167)	6 (76)	98% (1204)	21 (539)	29 (754)	3 (71)	2468
20-25K	20 ([illegible])	24 (153)	15 ([illegible])	14 ([illegible])	12 ([illegible])	13 ([illegible])	7 (51)	100% (764)	17 (230)	23 (309)	2 (24)	1326
25-30K	16 ([illegible])	22 ([illegible])	14 ([illegible])	14 ([illegible])	13 ([illegible])	12 (43)	7 (25)	99% (363)	26 (320)	20 (118)	2 (20)	611
30-39K	14 (62)	15 ([illegible])	10 ([illegible])	13 ([illegible])	16 ([illegible])	17 ([illegible])	5 ([illegible])	100% (279)	17 (75)	17 (75)	3 (11)	440
40+ K	14 ([illegible])	14 ([illegible])	6 (6)	20 (20)	15 (16)	9 (9)	8 (8)	100% ([illegible])	14 (23)	21 (34)	0	161
NA	8 (9)	24 ([illegible])	10 (8)	14 ([illegible])	8 (8)	25 (16)	7 ([illegible])	99% (99)	11 (13)	38 (46)	3 (4)	122
Total	20 ([illegible])	20 ([illegible])	13 ([illegible])	15 ([illegible])	13 (729)	13 (738)	6 ([illegible])	97 (5566)	25 (3743)	35 (5251)	3 (523)	15064

* = % of those who incurred costs, ** = % of total N in Group

Table III.D.30: Dental Costs by Family Income (Texas Sample)

Family Income	$1-$20	$21-$40	$41-$60	$61-$100	$101-$200	$201-$500	$501 +	Total Who Incurred Costs	Free or No Pay	No Visits	NA	Total
Less than 6K	2%* (6)	2%* (7)	7%* (2)	28%* (8)	10%* (3)	10%* (3)	0 (1)	100% (34)	31%** (77)	59%** (161)	1%** (3)	340
6-8K	7% (17)	1% (3)	3% (8)	3% (8)	3% (8)	4% (11)	1% (3)	100% (36)	26% (77)	60% (161)	3% (8)	342
8-10K	2% (6)	1% (3)	1% (3)	1% (4)	1% (3)	1% (3)	1% (3)	100% (25)	32% (96)	53% (161)	2% (5)	304
11-15K	2% (13)	3% (18)	1% (6)	1% (7)	1% (6)	1% (8)	0% (2)	100% (60)	27% (151)	45% (253)	2% (12)	568
15-20K	1% (4)	1% (4)	2% (7)	1% (6)	1% (4)	1% (3)	1% (2)	100% (30)	31% (56)	42% (75)	2% (4)	179
20-25K	1% (1)	2% (2)	1% (2)	2% (5)	1% (2)	1% (3)	0% (0)	100% (15)	29% (20)	26% (18)	0% (0)	69
25-30K	0% (0)	4% (1)	1% (2)	2% (1)	4% (1)	2% (1)	0% (0)	100% (7)	23% (6)	31% (8)	19% (5)	26
30-39K	3% (1)	3% (1)	1% (2)	2% (1)	0% (0)	2% (1)	1% (2)	100% (8)	17% (2)	17% (2)	0% (0)	12
40+ K	1% (2)	0% (0)	0% (0)	0% (0)	1% (2)	1% (2)	1% (2)	100% (2)	0% (0)	33% (1)	0% (0)	3
NA	3% (1)	0% (0)	0% (0)	0% (0)	0% (0)	6% (2)	0% (0)	100% (3)	19% (4)	62% (13)	5% (1)	21
Total	4% (74)	2% (77)	1% (39)	1% (52)	1% (32)	1% (35)	0% (10)	2% (319)	29% (520)	50% (914)	2% (37)	1814

* = % of those who incurred cost, ** = % of total N in group

relationship between sex and obtaining free dental service, is as expected, explained by the preponderance of males in the active duty and retired categories. Table III.D.31 shows that where males and females are in the same beneficiary class there is little difference in their ability to obtain free dental service. In fact, females may have a slightly higher rate than males within classes.

Age: The explanation offered for fewer visits among children under 13 (that those under 5 have very few dental visits) is neither confirmed nor disproven by findings in the controlled analysis. The explanation seems supported by figures among active duty dependents and retired military dependents. In the former group the absence of dental visits is greater in the 1-12 year old group than in any other group. In the latter group where the incidence of young children may be expected to be lower, the 1-12 group shows less tendency to fail to visit a dentist (Table III.D.32). However, among both survivor groups this trend is reversed and the adult group is less likely to have gone to the dentist during the preceding year. It is possible that among the survivor groups there is a significant number of older people who are essentially beyond regular dental care (e.g., those with false teeth, etc.).

The previous conjecture that the number of free visits to the dentist reflected the difference between active and non-active duty status rather than a real age difference is confirmed by data in Table III.D.33.

A final earlier finding on cost and age suggested that a greater cost is positively associated with age. A beneficiary class by beneficiary class examination shows this to be true only among dependents of active duty personnel, and even here the relationship is not a strong one. There is no indication

Table III.D.31: Use of Free Dental Care by Sex
(Controlling for Beneficiary Class)

Beneficiary Class	Sex	
	Male	Female
Active Duty Military	78.6%* (2195)	86.3% (63)
Dependents of Active Duty Military	14.1% (267)	15.5% (647)
Retired Military	31.6% (699)	45.3% (19)
Dependents of Retired Military	7.3% (99)	6.6% (216)
Survivors of Active Duty Military	7.0% (7)	7.0% (35)
Survivors of Retired Military	1.5% (1)	4.7% (13)

* Figures are the proportion of the group obtaining free or no pay dental care.

Table III.D.32: Dental Visits and Age
(Controlling for Beneficiary Class)

Beneficiary Class	Age 1-12	13-19	20-99
Dependents of Active Duty Military	53.3%* (1604)	30.7% (303)	38.2% (782)
Dependents of Retired Military	36.7% (293)	30.2% (444)	38.6% (894)
Survivors of Active Duty Military	42.3% (33)	21.8% (17)	56.1% (170)
Survivors of Retired Military	32.1% (9)	20.3% (16)	39.0% (92)

* Figures represent proportion of group that did not visit a dentist during the previous year.

Table III.A.33: Dental Costs by Age
(Controlling for Beneficiary Class)

Beneficiary Class	Age 1-12	13-19	20-99
Active Duty Military	none	78.3%* (126)	78.8 (2128)
Dependents of Active Duty Military	12.1% (363)	20.0% (197)	16.9% (347)
Retired Military	none	none	31.9% (718)
Dependents of Retired Military	7.0% (63)	7.7% (113)	5.9% (138)
Survivors of Active Duty Military	11.5% (9)	10.3% (8)	4.9% (15)
Survivors of Retired Military	3.6% (1)	6.3% (5)	.8% (2)

* Figure represents proportion of group which had free dental service during previous year.

to explain why this phenomenon should exist in this group within the data available for this analysis. A safe conclusion might be that there is no real relationship.

Family Composition: The earlier finding of a positive relationship between the number of dependents and use of free dental care again washes out when beneficiary class is controlled. The presence of active duty personnel, who are far more likely to be single, explains why zero dependent individuals were more likely to obtain free dental care. In fact, an opposite trend is revealed among Dependents of Active Duty Military and Dependents of Retired Military (Table III.D.34). In these groups there seems to be a slight tendency to take advantage of free service. Of course, this trend is operating on a much higher level among active duty dependents than among retiree dependents.

Family Income: The trend for those with smaller incomes to stay away from dentists is reflected in all beneficiary groups to a greater or lesser degree. Even among active duty personnel (the group least likely to miss at least one annual dental visit and the group which must bear the least cost for that visit), the tendency remains strong. This reenforces an earlier contention that income, in this instance, is a substitute for education (in a general sense) and that a lack of education is reflected in a lack of understanding or information on the benefits of annual dental checkups.

Finally, any tendency for increased use of free dental service with increased income is completely absent for the individual beneficiary groups. For each group there are different free service usage rates but within groups there exist virtually straight lines across income levels.

Table III.D.34: Dental Costs and Family Composition (Controlling for Beneficiary Class)

Beneficiary Class	Number of Dependents									
	1	2	3	4	5	6	7	8	9	10 or more
Dependents of Active Military	16.4%* (109)	13.9% (168)	13.5% (222)	15.4% (201)	17.8% (133)	17.5% (60)	19.9% (25)	20.0% (3)	38.9% (14)	--
Dependents of Retired Military	5.7% (53)	4.8% (41)	7.2% (80)	7.4% (59)	8.8% (37)	10.7% (20)	11.6% (17)	--	2.8% (1)	3.5% (7)

* Figure represents the proportion using free dental service among all group members.

This completes the description of dental service usage among California and Texas residents. The discussion of the influence of demographic and economic variables upon both frequency of dental care and cost of dental care while controlling for beneficiary class has reduced the number of relevant variables to a select few: beneficiary class (particularly active vs. non-active differences) and income-education are the most prominant of these. Differences in geographic area seem related to the above factors as well.

The final testing did not include geographic differences because the Texas sample proved too small for many of the large tables used in the description when beneficiary class was controlled as well. In addition, since the California sample was so large, it reflected the total results and made separate analysis redundant.

Appendix A

Table A.1: [illegible] Military and Civilian General Services [illegible]
Summary Scores**

[illegible]	Civilian [illegible]													Military [illegible]		[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] (25)	[illegible]	[illegible] (4)	[illegible] (22)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]																[illegible]

Total [illegible]

[illegible]; (2) [illegible]; (3) [illegible]; [illegible] service;
[illegible] administration; and [illegible] service.

** [illegible]. All 1's = perfect civilian [illegible]; all 7's = perfect military score.

Table A.2: [illegible] Military and Civilian Personnel

Civilian Better [illegible] Military Better

Total [illegible]

Table A.3: Family User Type by Comparison of Military and Civilian Facilities*

Summary Scores**

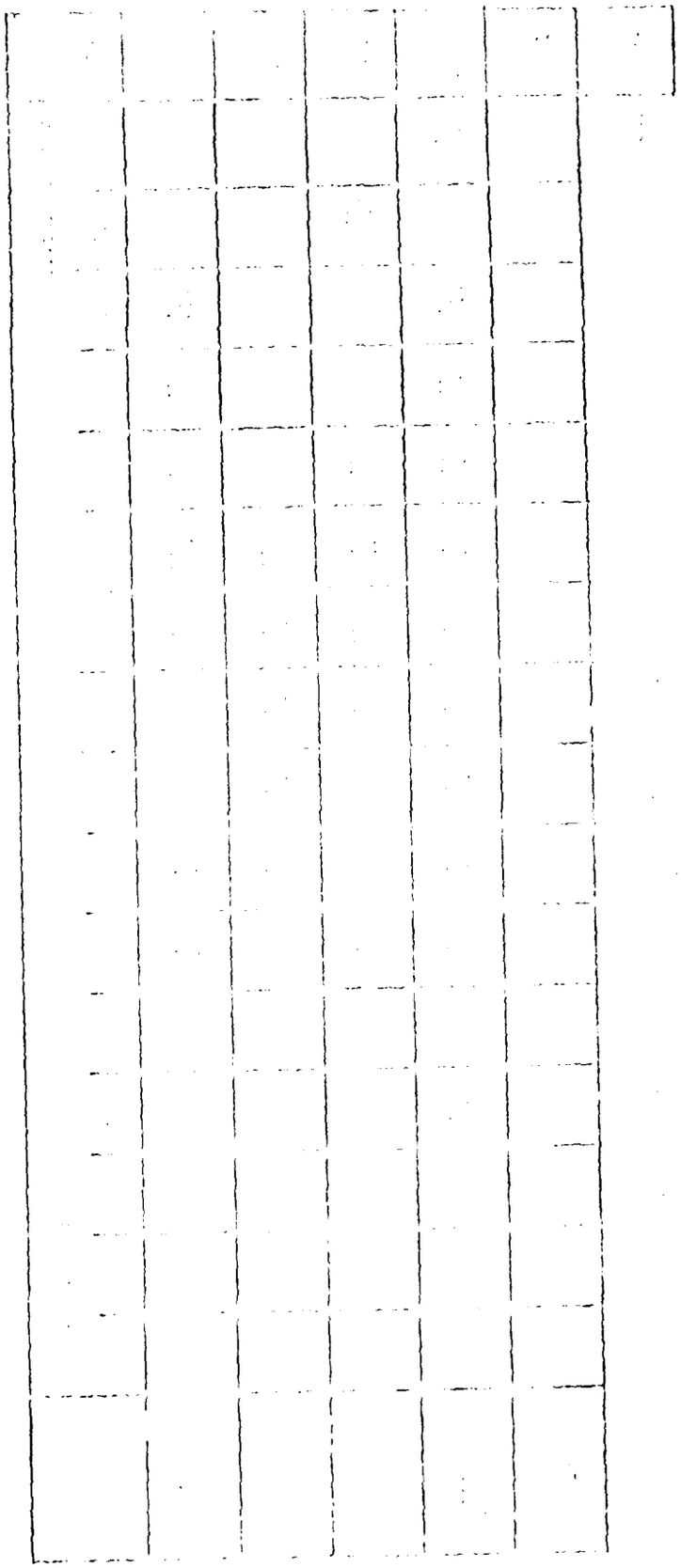
User Type	Civilian Better 2	3	4	5	6	7	Military Better 8	Total
Direct Only	0.6% (15)	8.6% (231)	75.8% (2037)	1.4% (38)	12.8% (343)	0.1% (3)	0.8% (21)	2688
CHAMPUS Only	0.9% (2)	8.9% (21)	83.8% (197)	0.4% (1)	5.1% (12)	0.0% (0)	0.9% (2)	235
Both Direct and CHAMPUS	0.0% (0)	9.7% (44)	80.3% (363)	2.2% (10)	7.5% (34)	0.0% (0)	0.2% (1)	452
Civilian Only	0.4% (9)	7.7% (179)	82.1% (1904)	0.9% (22)	8.2% (189)	0.1% (2)	0.6% (13)	2318
Unknown								1
							Total	5694

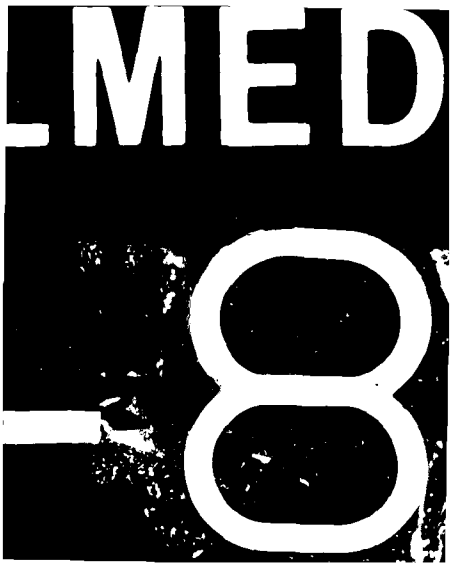
*Combination of the variables: Military vs. Civilian (1) Hospital Plant; and (2) Ambiance.

**Scores equal sum of scores on each item in scale. All 1's = perfect civilian score; all 8's = perfect military score.

Table A.4:

	Civilian Worker										Military Worker					Total




MED
8